

BESA Response to the final report of the Hackitt Review ‘Building a Safer Future: Independent Review of Building Regulations and Fire Safety’

June 2018

The Building Engineering Services Association (BESA) reflect the growing needs of our members and encompass all of the specialist services available within the built environment. BESA support and serve those active in the design, installation, commissioning, maintenance, control and management of engineering systems and services in private, public and commercial buildings.

Our members range from small enterprises to the largest organisations in the industry. BESA offer specialist support services, training courses and advice on technical standards, regulatory compliance, health and safety requirements and best practice. BESA members not only form a key part of the UK construction and maintenance supply chain, but form 40% of construction sector turnover.

The BESA acknowledge that the Grenfell Tower fire will undoubtedly become a defining moment for the whole built environment and, with tall buildings continuing to be an increasingly large part of our cities and urban environment, that it is vital the highest standards of safety in design and construction are composed, clearly stipulated and enforced.

Executive Summary

The BESA welcomes the Final Report from Dame Judith Hackitt and are grateful for the opportunity to respond to the Final Report. The foreword has a very good concise summary of the problems within the construction industry, describing a systemic failure, predicated on ignorance and indifference. There is a lack of clarity of roles and responsibilities at all levels, with responsibility for design being pushed further and further down the supply chain. Inadequate regulatory oversight and enforcement tools mean the consequences of a failure to comply are negligible. As outlined in the Interim Report (Published 18 December 2017¹) there is a lack of compliance, competence and evidence at all levels, and a clear model of risk ownership does not exist.

Regulations

The BESA agrees that buildings are systems and need to be designed, constructed and operated as such. Currently the construction industry assembles products, which look like the design but with little or no requirement to prove that the system works as a product. The development, introduction and enforcement of outcome based building regulations will shift the emphasis from what one can promise to deliver, to what one actually has delivered. This will allow competent designers to design systems that meet a design parameter that is verified and will stimulate innovation rather than tick boxes, as is currently the case with the proscriptive approved document format. In relation to the

¹ Independent Review of Building Regulations and Fire Safety: Interim Report, Ministry of Housing, Communities & Local Government <https://www.gov.uk/government/publications/independent-review-of-building-regulations-and-fire-safety-interim-report>

statutory guidance on the Conservation of Fuel and Power (Approved Document L²) the Standard Assessment Procedure (SAP³) and Simplified Building Energy Model (SBEM⁴) these bear little relation to the value engineered installation that is eventually operated.

The requirement to develop the different 'Gateway Points' to strengthen regulatory oversight of dutyholders prior to commencement on site will be an enormous step towards delivering better buildings. There is a high level of emphasis on the use of Business Information Modelling (BIM) for recording building design and changes through the "golden thread".⁵ This only becomes possible if the building is fully designed before site work commences, to prevent a "Build and Design" process that is grossly inefficient, increases risk to the design and people active in the construction phase and generally leads to less productive working. Other industries, be they automotive, aerospace or white goods, do not begin to build their product before it is fully designed; this however, is not the case for the built environment.

Culture Change

The need for culture change is evident, but the construction industry needs guidance and support, as many of the key decisions relating to design and programme are client and funding led. It is difficult to determine what steps need to be taken to ensure that completed and finalised design (as outlined in the RIBA Plan of Work⁶ for example) does not succumb to overt pressure from consultant and client financial pressure. Ultimately, fees from clients and funders will have to reduce in order to allow designs to be completed to an appropriate level.

The only way that new innovative technologies, such as Design for Manufacturing & Assembly (DFMA) and Business Information Modelling (BIM), will ever work economically is if the design process is completed and finalised before construction commences. This is a fundamental requirement that would improve outcomes and without it DFMA, BIM and any other changes are doomed to fail. This is true of all buildings and, if the required cultural change is to be achieved, it needs to be applied to all buildings and not just High-Risk Residential Buildings (HRRBs). The construction industry is capable of significant cultural change, as seen with regards to Health and Safety, so further evolution is essential in the industry's approach to all buildings; not just high-risk properties.

It is unfortunate that media attention and headlines have overtly centred on a failure to ban combustible materials following publication. BESA believe that this should not detract from the core message of the report, that a new regulatory system would make the use of inappropriate products within the design process impossible. BESA furthermore agree that the industry needs a complete cultural change, as recommended by Dame Judith. A ban on combustible materials however will not address the disease but merely treat the symptom. Unfortunately, it is likely that use of inappropriate products and materials will continue where there is pressure on cost. The Report of the Independent Inquiry into the Construction of Edinburgh Schools⁷ very clearly demonstrates this point, in that there are fundamental problems that cannot be dealt with on an individual issue by issue or product by product basis. Such an ethos should be applied to all buildings, as it will be more difficult and less likely to apply a culture change

² Building Regulations, Conservation of Fuel and Power (Approved Document L), Department for Business, Energy & Industrial Strategy <https://www.gov.uk/government/publications/conservation-of-fuel-and-power-approved-document-l>

³ Standard Assessment Procedure (SAP), Department for Business, Energy & Industrial Strategy <https://www.gov.uk/guidance/standard-assessment-procedure>

⁴ Simplified Building Energy Model (SBEM), Building Research Establishment, <https://www.bre.co.uk/page.jsp?id=706>

⁵ Building a Safer Future – Independent Review of Building Regulations and Fire Safety: Final Report, p.35

⁶ RIBA Plan of Work <https://www.architecture.com/knowledge-and-resources/resources-landing-page/riba-plan-of-work>

⁷ Report of the Independent Inquiry into the Construction of Edinburgh Schools, City of Edinburgh Council, http://www.edinburgh.gov.uk/info/20074/schools/1423/independent_inquiry_into_school_closures_published/1 February 2017

across a part of the industry rather than the industry as whole; the improvements and the culture change made over the years towards Health & Safety was applied across the board and was therefore more successful.⁸

Design & Build

The report has identified Design and Build as an issue; BESA pose however that this in practice is more likely to be “Build and Design.” As projects commence on site construction is completed well before the design. The “gateways” are therefore a critical control and work on any project should not be allowed to commence until it is properly designed. The report later calls for the greater use of BIM. For digital design tools to be effective for record keeping it is essential that the design is completed before construction commences. This is a key reason why value engineering has become commonly employed during the build, as the design is not complete and therefore not properly costed.

The proposed enforcement regime could pose a problem and face challenges if the focus is purely on safety critical elements as the law of unintended consequences will occur, whereby outcomes that are not the ones foreseen and intended by a purposeful action come about. It is possible to foresee a scenario whereby the industry becomes very proficient at sealing buildings for fire safety, because it becomes categorised as a safety requirement. Well sealed buildings however require adequate ventilation for the occupiers, and to protect the fabric from mould growth, but if the ventilation systems are not “safety critical” they will be subject to value engineering and poor quality design and installation. In a few years we could be asking why our buildings now have mould and have damp issues, contributing to health issues within these buildings. This approach compliments Dame Judith’s view that buildings need to be treated as complete systems.

Regulations: Part L

When examining Part L of the building regulations, it is impossible to not ‘design and build’ for energy performance without other regulations being compromised. The holes through which energy escapes are the same holes through which smoke and fire penetrate. If we approach the building as a whole system then it is logical that all parts of the system need to operate correctly. It makes no sense to focus only on fire safety, when the building will be safe for residents and users if the whole system works correctly. There should therefore be a zero tolerance policy on all building regulations, where failure to properly self-regulate is met with substantive fines.

With reference to competence it is unfortunately evident that the inability to execute a project does not necessarily exclude or disqualify bidders and practitioners from tendering and winning a construction contract. An existing Government Consultation⁹ examines the policy proposal of excluding organisations with an evidenced track record of poor payment practices from tendering for public contracts; a similar policy could be introduced for competence.

Herein, BESA welcome the recommendations on competence requirements. Many of the skills that the industry are lacking are core competences. The numbers of skilled practitioners that work specifically on HRRBs will be dwarfed by the overall construction workforce. If we are to build demand for skills, training and qualifications, which will make the investment in new facilities attractive, there needs to be a significant increase in demand. This would be generated if the industry applied the same criteria for competence and compliance across all construction projects and increased the workforce numbers requiring training and accreditation.

⁸ Building a Safer Future – Independent Review of Building Regulations and Fire Safety: Final Report, p.56

⁹ Open Consultation on Prompt payment by Government Suppliers, Crown Commercial Service, <https://www.gov.uk/government/consultations/prompt-payment-by-government-suppliers> April 2018

The Building Engineering Services Association's detailed response to the recommendations are below.

Detailed Response to Final Report Recommendations

Recommendations and BESA Response

Parameters and principles of a new regulatory framework

Recommendation 1.1: [Agreed](#)

Recommendation 1.2: [Agreed](#)

Recommendation 1.3: The regulatory framework should treat the building as a single entity (a system encompassing sub-systems) and a new over-arching Approved Document should be published describing the system and the holistic analyses that must be completed when undertaking building work. This should define the requirement to understand the interactions of the system and its comprising subsystems in both normal operation and outside normal conditions. [The BESA agree with this recommendation, and wish to emphasise its importance. BESA are available for further comment on this topic](#)

Recommendation 1.4: a. b. c. [Agreed](#)

Design, construction and refurbishment

Recommendation 2.1: [Agreed](#)

Recommendation 2.2: Government should allocate broad responsibilities to Clients, Principal Designers and Principal Contractors responsible for HRRBs as set out in Table 2 – Key responsibilities of dutyholders. [Agreed, however, a clear and concise framework, that specifically details responsibilities, must be put in place to ensure that said responsibilities cannot be ignored, misunderstood or passed to another. This is currently the problem as it is not clear exactly who is responsible for what.](#)

Recommendation 2.3: [Agreed](#)

Recommendation 2.4: Government should consider applying the key roles and responsibilities and information product recommendations to other multi-occupancy residential buildings and to institutional residential buildings whilst bearing in mind necessary adjustments to keep the requirements proportionate. [BESA agree with this principal, but Government should consider applying the key roles and responsibilities and information product recommendations further to all buildings](#)

Recommendation 2.5: [Agreed](#)

Recommendation 2.6: Government should ensure that there is thorough assessment by the JCA of detailed design plans for HRRBs and sufficient assurance that dutyholders are in place and relevant responsibilities are being met in order to give permission for building work to legally commence. This should be in line with paragraphs 2.29-2.32. This 'Full Plans Approval' is the second Gateway Point. [Agreed – this is one of the most crucial points, as it will put an end to "Build and Design"](#)

Recommendation 2.7: [Agreed](#)

Recommendation 2.8: [Agreed](#)

Recommendation 2.9: a. b. [Agreed](#)

Recommendation 2.10: In HRRBs, building work that is carried out by 'persons in a competent person's scheme' should be subject to full oversight by the JCA to enable it to fully discharge its duties in line with paragraph 2.38-2.39. [BESA agree, but stress that the value of Competent](#)

Persons Schemes is not lost, undue pressure put onto scheme providers and that such schemes become a hindrance to practitioners and firms

Recommendation 2.11: a. b. c. d. e. f. Agreed

Recommendation 2.12: a. b. Agreed

Recommendation 2.13: a. Agreed

Recommendation 2.13: b. the JCA/Local Authority Building Standards should have the clear power to require changes to work that fail to meet the Building Regulations requirements alongside any broader penalties sought; BESA believe, as with Recommendation 2.4, that this should not be limited to HRRBs, but should extend to cover all buildings

Recommendation 2.13: c. time limits for bringing prosecutions against dutyholders should be increased to five or six years for 'major' deficiencies in building requirements identified at a later date; BESA recommend that limits for bringing prosecutions be brought more in line with most construction law and therefore the liability period would be 10 years for latent defects

Recommendation 2.13: d. e. Agreed

Recommendation 2.14:

Occupation and maintenance

Recommendation 3.1: a. b. c. Agreed

Recommendation 3.2: a. b. c. Agreed

Recommendation 3.3: Agreed

Recommendation 3.4: a. b. c. Agreed

Recommendation 3.6: Agreed

Recommendation 3.7: Agreed

Recommendation 3.8: Agreed

Residents' voice

Recommendation 4.1: Not applicable to BESA

Recommendation 4.2: Not applicable to BESA

Recommendation 4.3: Not applicable to BESA

Recommendation 4.4: Not applicable to BESA

Recommendation 4.5: Not applicable to BESA

Recommendation 4.6: Not applicable to BESA

(Although this section may not be entirely applicable to members of the BESA, our technical, executive and policy positions are available upon request)

Competence Recommendation

Recommendation 5.1: a. The construction sector and fire safety sector should: a. demonstrate more effective leadership in relation to developing a responsible approach to delivering building safety and integrity; Agreed but many of the behaviours described in the Final Report are driven by clients and funders. This recommendation suggests that the construction industry is entirely in control of its own behaviour, standards and self-certification; BESA pose that it is not. The requirement for rapid investment returns drives unrealistic budgets and programmes; propagating, encouraging and largely driving the design and build requirement. The consequences of a failure to comply are frequently felt by the residents, but not by the developer. BESA recommend therefore that there is an urgent need to engage beyond construction into the stakeholders of the built environment.

Recommendation 5.1: b. c. work with other sectors to learn and translate good practice and implement it within the sector; and c. develop continuous improvement approaches to competence levels. Firstly, there is a need to establish that competence is a requirement at every level

of design, construction and operation. There are a number of Certification Schemes that assess, certify and register the competence of contractors and individuals, providing a time saving and cost effective solution for those wishing to self-certify and notify their commercial and domestic works under the Building Regulations. The BESA are available for further comment and insight in this field, as we currently operate such a scheme for our members.

Recommendation 5.2: a. The professional and accreditation bodies working within the construction and fire safety sectors should continue the work started in response to the interim report and present a coherent proposal to government within one year. As a minimum, this proposal should cover the role and remit of an overarching body to provide oversight of competence requirements and support the delivery of competent people working on HRRBs, including: This should not be limited to HRRBs as it will be very difficult to drive a partial culture change in the construction industry. In order to 'Build a Safer Future' the discussed cultural change needs to encompass the entire industry.

- the professional bodies, professions and disciplines in scope;
- its membership and governance;
- its role in receiving, agreeing and monitoring the individual competence frameworks for those bodies, professions and disciplines in scope for individuals within their membership or on their register, and/or whether a single competence framework for professional bodies in scope should be established;

The scope should include all stakeholders to ensure that the framework is fit for purpose and does not simply become another cost to the industry through additional accreditation requirements that add no genuine link to competence and therefore no value. Such an oversight and additional pressure being added to practitioners will discourage the desired change.

Recommendation 5.2: b. c. Agreed

Recommendation 5.4: a. b. Agreed

Guidance and monitoring to support building safety

Recommendation 6.1: a. b. Agreed

Recommendation 6.2: Agreed

Recommendation 6.3: a. b. Agreed

Recommendation 6.3: c. facilitating the prioritisation of fire and structural safety while encouraging a holistic approach that considers all building safety objectives; This should extend to all design elements and not just safety. A safe building will be as a result of good design not the sole objective of the design

Recommendation 6.3: d. Agreed

Products

Recommendation 7.1: a. b. c. Agreed

Recommendation 7.2: a. b. c. d. e. Agreed

Recommendation 7.3: A simpler, more streamlined set of standards relating to the testing of products used in HRRBs, and the health and safety of people in and around those buildings, needs to be developed. This should ensure that where new standards are required, these are identified quickly and in the case of conflicting standards, that these are identified and reviewed. Should be a requirement for all building products. There currently exists a confusion in all areas with wide scale "passing off" of products and test documentation, which also needs to be addressed.

Recommendation 7.4: Agreed

Recommendation 7.5: a. Agreed

Recommendation 7.6: a. Government should ensure that there is a more effective enforcement, complaint investigation and market surveillance regime with national oversight to cover

construction product safety. This should extend to cover all products used in construction. Measures need to be taken to tackle and curb the dangerous practice of products frequently being purchased via the internet, which do not comply with current standards or have relevant safety guarantees

Recommendation 7.6: b. c. Agreed

Golden thread of building information Recommendation

Recommendation 8.1: a. b. Agreed

Recommendation 8.2: Agreed

Recommendation 8.3: a. Government should work with industry to agree the type of information to be collected and maintained digitally (by default) to enable the safe building management of existing HRRBs.

Access to libraries of maintenance specifications for building engineering services and industry standards for planned maintenance can be an essential tool for facilities managers, building owners, residents, contractors and consultants in tendering, service level re-modelling and auditing, while enabling them to stay compliant, save time, energy and money. Over a number of years the BESA have worked in collaboration with such stakeholders to develop and produce standard and related asset structures with consistent naming conventions to enable all phases of the building lifecycle to share a common asset language and provide a structures to give a continuity of building asset information. BESA are available for further information on such products and digital tools.

Recommendation 8.3: b. Agreed

Recommendation 8.4: a. Agreed

Procurement and supply

Recommendation 9.1: a. b. Agreed

Recommendation 9.2: a. b. Agreed

Recommendation 9.3: Agreed

International examples

Recommendation 10.1: Agreed

BESA – Working together to represent the engineering services sector

- *BESA collaborate with a number of other trade bodies and associations on a range of issues affecting the engineering services sector.*
- *These partnerships bring together the leading bodies representing the interests of engineering services contractors.*
- *BESA, through collaboration and its own expertise, cover a broad range of engineering, design, installation and facilities management activity, including electrical, heating, plumbing, energy management, micro-generation, ductwork, ventilation, fire and security, and wireless systems.*
- *Joint working includes representation and services in key areas such as contracts, procurement, payment and health and safety.*
- *Overall, the engineering services sector is estimated to account for some 40% of UK construction and maintenance turnover.*

For any further comment or information regarding the BESA's response and recommendations, please contact Alexi Ozioro, Public Affairs and Policy Manager, alexiozioro@thebesa.com 0797 419 6699