From:	
Sent:	Monday, 22 July 2019 5:05 PM
To:	Building Confidence Response
Subject:	Response to Building Stronger Foundations Discussion Paper
Attachments:	Submission on Building Stronger Foundations by George Walker.pdf

To Whom it May Concern

I find myself in a position of being unable to respond directly to the questions asked in the Discussion Paper. I have a fundamental problem with the approach adopted which I believe is not in accord with one of the primary conclusions of Dame Judith Hackitt's report and is not consistent with modern principles of risk management of complex systems like those associated with the construction of large buildings. Requiring approved Building Information Management Systems (BIMS) to be used on all major building projects would automatically solve many of the issues without the need for the heavy bureaucratic oversight envisaged in the Discussion paper.

I attach a brief submission outlining my concerns and recommended approach.

Regards

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In her report following the Grenfell fire in the UK (Ref 1) Dame Judith Hackitt wrote that what is needed is *'an integrated systemic change not a shopping list of changes which can be picked out on a selective basis'* in order to change this embedded culture. A major theme underlying her report is that modern projects entail complex systems which increase in complexity with increase in project size.

In my opinion the proposals presented fail to recognise this major conclusion of her report. The Discussion Paper present a shopping list of changes that while admirable in theory will not solve the basic problems which arise from the complexity of the systems involved without a large increase in bureaucratic oversight. This will inevitably result in increased costs and delays, and a reduction in the productivity of the building industry. A different approach to risk management than the simpler systems of the past is required. Achieving this requires a basic understanding of system behaviour by the professionals involved.

In a recent presentation by Warren Black and Geoff Hurst to the Engineers Australia's Risk Engineering Society <https://vimeo.com/333476260/e1aa47e8fb> the point is made that for complex systems *'we need to move beyond our traditional over dependence on having to predict a risk in order to control it' to recognising that 'when it comes to highly complex environments, managing the situational complexity is managing risk.'* This principle, which is fully in accord with the opinion of Dame Judith Hackitt, should underpin any proposed changes in building control. The issue should be how to manage the building control in accordance with this principle.

The digital revolution has enabled the expansion in complexity of the system for the construction of modern major buildings but utilising it in building control has lagged far behind. However, the technology to manage the process electronically does exist in the form of Building Information Management Systems (BIMS). (A good introduction to these can be found on line at https://en.wikipedia.org/wiki/Building_information_modeling.) These have now reached a relatively mature level of development with several software systems available. Over 3 years ago Infrastructure Australia (www.infrastructureaustralia.gov.au) in its report 'Australian Infrastructure Plan February 2016' recommended that *'The infrastructure sector should better capitalise on new technologies to improve the planning, delivery, and maintenance of infrastructure. Governments should make the use of Building Information Modelling – which enables the generation of three-dimensional models of buildings, infrastructure and places – mandatory for the design and delivery of large-scale, complex projects.'*

If it was mandated that all buildings above a certain height and floor area were to be constructed using BIMS, most of the issues of concern would be automatically accounted for within the process, with red flags coming up if they haven't been, and the primary concern of those responsible for enforcing building controls would be approving the BIMS software. Instead of becoming a bureaucratic nightmare for all involved this would not only reduce the level of bureaucratic involvement in the design and construction process, it would also improve the efficiency of the overall process leading to an improvement in productivity.

In my opinion this is the 21st century solution to the management of risk within the building and construction industry, not the 20th century solution being advocated in the Discussion Paper.

I believe that the overall responsibility for implementing BIMS should lie with a single Project Manager appointed by the owner who would also be responsible for signing off the building as meeting all the legal requirements. None of this would lessen the individual responsibilities of the parties within the system to each other but it would ensure a single point of accountability for the overall performance of the building.

I know that there would be resistance within the building and construction industry to such a change, but there is no way productivity will be increased without making full use of modern technology and to achieve the desired outcomes by relying on bureaucratic control without using it will almost certainly reduce productivity. Because of the education required it would also take some time to implement, but in my opinion the wait would be worth it.

Ref 1. *Building a Safer Future - Independent Review of Building Regulations and Fire Safety – Final Report*. Dame Judith Hackitt. Presented to the UK Parliament by the Secretary of State for Housing, Communities and Local Government by Command of Her Majesty, May 2018.