



Weaving the Golden Thread

As the building safety reform agenda gathers momentum in England, one topic has been a standout since its proposal by Dame Judith Hackitt – the golden thread. Since the publication of her report industry has enthusiastically debated this fundamental component of the new regime.

On this landmark legislative reform Dr Hywel Davies Technical Director, CIBSE & Chair, Building Regulations Advisory Committee and Aman Sharma Managing Director, Totus Digital & Deputy Chair, Building Regulations Advisory Committee offer an inaugural insight into the development of the golden thread policy; and how it may be applied in law and industry practice.

Introduction

Since Dame Judith Hackitt's '*Building a Safer Future - Independent Review of Building Regulations and Fire Safety: Final Report*', which was published three years ago, one topic has captured the constant attention and interest of industry, eliciting lively debate and detailed discussion on its purpose and position within the new regulatory system – the golden thread. It is one of the recommendations of the report, all of which are accepted in principle by the government.

It is a frequent agenda item for most major industry events, with webinars and CPD sessions regularly arranged for delegates and expert speakers alike to thrash out their views on the detail of this critical component of the new building safety case regime.

The golden thread is a central recommendation of the report. During her review Dame Judith heard "almost unanimous concern surrounding the ineffective operation of the current

rules around the creation, maintenance and handover of building and fire safety information". Where building information is available, "it is often incomplete or held in paper form and is not accessible to the people who need to see it". She noted that this lack of information poses many safety challenges.

Dame Judith proposed a 'golden thread' of information for all higher-risk buildings (HRBs), so that their original design intent is preserved, and changes managed through a formal review process." She was also clear that access to up-to-date information is essential for "effectively carrying out a fire risk assessment of a building and determining whether any action is required".

To most reading chapter eight, it was clear that the concept of the golden thread was, in practice, the digital management of information throughout the lifecycle of a building. The golden thread incorporates all the information needed to understand a building and how it should be managed so that the building

and above all the occupants are safe, both now and in the future. It underpins the new more stringent regime for higher-risk buildings, sometimes referred to as buildings 'in scope'.

Heightened interest in the golden thread continues and is welcome, demonstrating that many in the sector want to understand what they may have to do because of this drive for digital information management throughout the lifecycle of an HRB. Government have been clear with regular messaging, reinforced by Dame Judith herself, that the golden thread needs to be owned by industry. However, with ownership comes duty – a duty to reform ahead of legislation and change the way the industry manages and exchanges information.

This article describes the work being done to develop the detailed policy for the golden thread and how it will be used. This is directly relevant to designers, constructors and building owners and operators, who will; all have new duties in the new regime. Greater knowledge and awareness of the emerging detail will enable the industry to respond and prepare for the new world that Dame Judith envisioned and that the Building Safety Bill will bring.

Developing Policy

Responsibility for developing the golden thread policy rests with the Building Safety Programme in the Ministry of Housing, Communities and Local Government (MHCLG). They are working closely with colleagues in the HSE (the new Building Safety Regulator will sit within HSE), which will be given wide ranging new powers under the Building Safety Bill and will be responsible for implementing the golden thread policy once the legislation is passed.

MHCLG officials and ministers are currently advised by the Building Regulations Advisory Committee (BRAC), a public, non-departmental, scientific advisory committee established under Section 14 of the Building Act (1984). BRAC is composed of independent subject matter experts from across the built environment appointed by the Secretary of State to advise on the making of building regulations, and on other subjects connected with building regulations.

BRAC has taken a close interest in the development of the golden thread, recognising its long-term role and importance in the life cycle management of buildings and its potential significance in the new safety regime. Following discussions with the Industry Safety Steering Group (ISSG) chaired by Dame Judith in August 2020 BRAC formed a working group, with full MHCLG and HSE support, to advise officials on the development of the golden thread policy

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This key group brings together a wide range of experts in digital information management, operation of residential buildings and portfolios, fire safety, design and construction of buildings, building, housing and workplace legislation and serves as the primary source of advice to officials as the policy continues to develop. There are several workstreams led by industry experts looking at the definition and underlying principles of the golden thread, the current standards and guidance on information management and exchange and associated initiatives and at the challenges of changing the culture of the industry towards the creation, management ownership and accessibility of information about buildings from design through into occupation and operation.

The current workstreams cover:

- ◆ Golden Thread Definition and Principles
- ◆ Standards and Data Mapping
- ◆ Coordination and Oversight of Existing Industry Initiatives
- ◆ Culture Change and Communications

Golden Thread Definition, Principles & Participants

The golden thread is the information that allows someone to understand a building and the steps needed to keep both the building and people in and around it safe, both now and in the future. It provides the data and documents and describes the information management processes needed to identify, understand, manage and mitigate building safety risks and in particular prevent or reduce the severity of the consequences of fire spread or structural collapse. It applies throughout the life of the building, through design, construction, refurbishment, and management, so the golden thread needs to be maintained and retained and available to all those with responsibility for the safety of the building.

This information should be stored, managed, maintained and retained as structured digital information. It is anticipated that government will provide guidance on the relevant digital standards for information management and exchange, taking full account of the emerging framework of standards and guidance in the UK BIM Framework and of the work already underway in the housing sector to prepare for the new safety regime.

The information needs to be accurate, reliable and secure and accessible from a single source. It must be kept up to date and relevant to those using it and retained securely. Above all, it should give residents confidence that the building they call home is being managed safely.

It is also essential to recognise that the golden thread supports the wider changes in the regulatory regime intended to promote a culture of building safety. In this context building safety should be taken to include the fire and structural safety of a building and of all those people in or around a building, including emergency responders.

Golden Thread in Focus – Fire Safety Information

The legislative requirements to develop and maintain a golden thread, as described in the Bill, focus on fire and structure. With fire safety being considered from planning gateway one through the provision of a fire statement, one can be forgiven for assuming that the thread of fire safety information is tied off at gateway three by the fire and emergency file. But this simply isn't the case.

The golden thread will require dutyholders to maintain this (and all other) information through not just the design, construction, or refurbishment phases of a project, but to carry that information through into the management or *lifecycle* of the building.

When applying the golden thread, we should consider the information requirements and the process by which that information is managed. For the subject of fire there is a key aspect to consider as part of the holistic digital solution. In the event of a fire incident, the fire and rescue service (FRS) are clearly a key stakeholder. The FRS need to access time critical information to formulate a tactical plan when attending an operational incident. The first strike officer, crew members and senior officers respectively will develop, manage, and update their tactical plans on a building fire using the information at their disposal, currently having to rely on witness accounts, individual situational awareness, and technical assumptions to do so in the early, most crucial stages of an incident.

If relevant and accurate fire safety information was available and accessible, perhaps from a common data environment, the FRS can be assured that the basis of their response was made using the right information. With this we can start to understand the significance and true potential impact of the principles sitting behind the golden thread. Not only is it intended to reduce the likelihood of an incident, but it is also intended to support the FRS in responding to an incident and so reduce the severity of the consequences of that incident.

One example is the new standard being developed for fire safety information needed throughout the lifecycle of



the building, including in the event of a fire. To offer best practice and support, *BS 8644-1: Digital Management of Fire Safety Information* will be published toward the end of 2021. It will provide recommendations on managing fire safety information using digital frameworks; so that the information is available for all relevant stakeholders throughout the lifecycle of an asset – including fire and rescue operatives.

And whilst this British Standard has been developed in conjunction with the working principles of the golden thread policy, its scope extends beyond HRBs to all building typologies and infrastructure to act as an early test application of the policy requirement.

Adopting the Golden Thread

It is frustrating to see parts of the industry recognising the need for change, in principle, but not taking action now to prepare for change for fear of 'misalignment' with the new regime. This approach is wasting valuable time to prepare for the new regime, both in terms of information management but also in wider terms such as competence of people and the overarching need to change the culture of construction to one that focusses on safe outcomes and not on cost.

Sadly, it appears that some within the industry are approaching this reform in the same manner that they would any other risk prioritisation exercise. Evidence emerging from

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Paddington should serve as a timely reminder of the real risk organisations are exposed to, including resistance to change.

The golden thread is not the first example of legislation to require the provision and exchange of information. The most pertinent example to those in the fire community is Regulation 38 of the Building Regulations 2010 (as amended).

The current duty (in England at least) for the 'person carrying out the work' to handover fire safety information to the responsible person has long been understood. Owners, designers, contractors and enforcing authorities all knew of this requirement. Although there was a duty to do so, many dutyholders simply did not comply with this duty and there is no known case of enforcement.

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Cultural Change

Legislation alone is not enough to embed reform. If a system is there to be gamed, there will always be those tempted to play. Unless of course they *choose* not to. The greatest challenge is not to define the golden thread, but to convince an apathetic and often change resistant industry that reform is not just necessary, but that it is even possible.

We know well the pain points and legacy of past practices. For example, the construction industry has for some time now operated with challenging operating margins and cash flow, further exacerbated by the retentions regime. We see this manifested in hurried decision making and cost saving drives; resulting in a race to the bottom in design and build standards.

It appears that this legacy culture across our respective sectors is a by-product of past collective practice but is now recognised as the key to unlocking a better and safer way of working.

Cultural change then is pivotal to industry reform and we must address it now, prior to the introduction of the Building Safety Bill. The BRAC Golden Thread Working Group is working closely with MHCLG and HSE with a Cultural Change and Communications workstream which aims to:

- ◆ Communicate the definition and principles of the golden thread;
- ◆ Support industry to develop the digital competences needed to implement the golden thread and;
- ◆ Support development of a culture where building safety is the core priority for dutyholders throughout the lifecycle of a building.

This workstream is undertaking an increasing level of industry engagement, speaking at webinars and online events and writing articles for the industry. These will provide delegates, readers, stakeholders and dutyholders with clear information about the policy and what the golden thread entails, as well as insights into the changes in practice that it will require.

Whilst it will take many years to embed these changes in the industry it is essential that those who will need to implement the golden thread in their residential estate understand what is required and can begin to prepare for the legal duty to provide it. As we approach the fourth anniversary of the terrible events at Grenfell Tower, we need to be preparing for the new safety regime as the Bill goes through parliament, so that we are ready to implement it when it

becomes law. We owe that to the bereaved, survivors and relatives of Grenfell Tower.

Summary

Whilst the duty to manage building safety information digitally throughout the lifecycle of a building in scope of the new regime will fall directly to the Accountable Person, it will require a wide range of stakeholders to make available all the information needed to deliver a building's golden thread of information.

Architects, designers, fire engineers, contractors, building safety managers, facilities management service providers, managing agents, emergency services and of course, residents will all have an active role in delivering building safety information that is relevant, accurate, up to date, secure and accessible. A considered approach by the Accountable Person to co-ordinate these groups will be fundamental to discharging their duties under the new regime, and there can be no doubt that the UK BIM Framework offers a tried and tested approach to information management.

The development of a golden thread for existing assets that will fall immediately in scope remains a challenge. Capturing and confirming data on buildings that have fallen victim to a culture of carelessness towards information management poses logistical and economic challenges.

The new regime, and in particular the golden thread, represents a once in a generation opportunity to transform resident and building safety. The international community is watching intently as we seek a proportionate solution to integrating digital requirements with building safety.

Yet there remains one duty not outlined in the draft Bill that we must address. That is the duty for us all to show leadership by assuming a collective responsibility for dramatically improving standards of building and resident safety.

Building and resident safety must no longer be an afterthought. In each task we undertake we should ask ourselves, "How will the decisions I make, and the actions I take, impact on the safety of the residents in this building?"

Nor can we delay – early reform is not only possible, but also essential. And as government continues to thread the needle, so industry must prepare to weave and tie off our golden thread processes, allowing residents to be safe and feel safe now, and well into the future.