



Competency & Safety in Construction

Position Paper for DoLUHC

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Introduction

The Institute of Construction Management [ICM], as the voice of the construction industry, identified the need for a standardized approach to the measurement of competency for the four key duty holders under the Construction (Design and Management) Regulations 2015 [CDM2015]. The Institute already has in place a registry for competent principal designers and is currently working with client organizations to develop a measurement for competency for clients. CDM2015 raised the priority of responsibility toward the client having, in previous incarnations, relied on a CDM-Coordinator and a Design Supervisor before that.

The ICM also identified the need for increased awareness of, and compliance with, the Construction (Design and Management) Regulations 2015 [CDM2015] in order to improve the safety of all those affected by construction, not just those who work within the industry. It was recognized that the point at which safety plays the most crucial role is in the design stage, where the greatest decisions are made. These responsibilities, however, carry no statutory competency requirements, unlike those individuals who carry out the installations, such as electricians, gas engineers and so forth. By striving to improve the competency of the four duty holders specified in CDM2015 safety will be improved not only during design and construction, but also for those who work and live in the structures created.

The Hackitt report noted the significant improvements that CDM2015 has brought, but it is clear that further improvements must be made. In the year to June 2021, for example, there were 249 fatalities in domestic dwellings due to fire, and whilst the elements of design and construction cannot be apportioned to all of these, it is significant enough to warrant improvements in safety for all types of structure. The Safer people, safer homes report recommended that a competency model based on CDM2015 should be adopted.

There are significant similarities between the four key duty holders under CDM2015 and the three key stakeholders identified by BSI Flex in response to the Building Safety Bill [the Bill]. Currently there is no alignment between the two separate sets of responsibilities. Historically, levels of competency were not specifically defined in CDM2015—a major factor in the ICM originating the register for the principal designer duty holder. Responsibilities under both sets of regulations will be required only where work is concerned with higher-risk buildings, as defined in the Bill, and only then when there is more than one contractor. A principal designer appointed under the Bill may also be the principal designer appointed under CDM2015.

Alignment of the responsibilities and competences of the similarly-titled yet seemingly disparate role of principal designer in the Bill and CDM2015 will provide a more coherent footing from which to ensure safety in all forms of construction. Registering those competencies will allow clients and organizations to appropriately assess that their chosen principal designer is competent to fulfil the needs of the project as well as ensuring compliance with the various regulations. This would also align with the current practice of institutes and organizations requiring and registering the competencies of individuals against such things as GasSafe, NICEIC, Fensa etc, and of the organizations themselves against such things as UKAS, ECUK, ISO9001 etc.



Background

Building Safety Bill

As an output of the independent review of the building regulations and fire regulations, the Building a Safer Future report recommended a new regulatory framework to be focused on multi-occupancy higher-risk residential buildings (HRRBs) greater than 18m in height.

Since then, the building safety bill defined three key stakeholders that would be required to ensure safety in what the Bill refers to as high-risk buildings (HRBs) greater than 18m. These are:

- Principal Designer (PD_{HRB})
- Principal Contractor (PC_{HRB})
- Building Safety Manager

The Bill expressly excludes those buildings referred to as “higher risk” in the Building Regulations, hospitals, care homes and secure residential institutions, for example. It is understood that the government’s intention is to align, in time, building safety legislation with the Building Regulations.

The definition and accountabilities for each of the key stakeholders within the BSI Flex 8670 competency framework is defined and detailed in the following proposed publicly available specifications (PASs):

- PAS 8671 – Principal Designers
- PAS 8672 – Principal Contractors
- PAS 8673 – Building Safety Managers

Construction (Design and Management) Regulations 2015

The Construction (Design and Management) Regulations 2015 are applicable to all types of construction, and are concerned with the health and safety of *anyone* affected by a construction project. They identify four key duty holders with responsibilities as:

- Client
- Principal Designer [PD_{CDM}]
- Principal Contractor [PC_{CDM}]
- Designer

The regulations require three important pieces of documentation:

- The pre-construction information, which is concerned with hazards that exist prior to construction.
- The construction phase plan, which details how the works are to be planned, managed and controlled.
- The health and safety file, which is provided at the end of the works and lists all the applicable residual hazards and risks associated with using, maintaining, repairing, and disposing of the structure.

There is a common perception that CDM2015 is primarily applicable to health and safety matters *surrounding* construction. This is misplaced as the regulations are also concerned with the health and safety of those *affected* by any construction [Regulation 4 (2) (a)]. This includes all those who work in,



operate, maintain, repair, and demolish any structure. The regulations are applicable to all building, civil, and engineering construction, including repair, maintenance, and demolition and dismantling. Specifically excluded are the exploration and extraction of mineral reserves. The core principle for design risk management in the regulations is the application of the general principles of prevention, which is summarized in the regulations as: eliminate; reduce; control.

CDM2015 differs from the previous 2007 regulations in that the client is given definite responsibilities in relation to construction work as they are the ultimate arbiter of what work is completed and at what cost. A key feature of the regulations is that each of the other duty holders must make the client aware of their (the client's) duties.

Since the introduction of the first CDM regulations in 1994, there has been a duty to provide, at the end of the construction phase, a health and safety file to be handed to the building's owner/operator.

Alignment

PAS 8671 considers the competency of the PD_{HRB} role as defined in the Bill. In juxtaposition with CDM2015, there appears to be considerable correlation with the responsibilities of the existing role of PD_{CDM}. Some of note are:

PD _{HRB}		PD _{CDM}	
4.3	Design risk management	Regulation 11 (3) and guidance paragraphs 102-103	Requirement to implement the general principles of prevention
4.4	Design project management	Regulation 11 (2) (a)	The design, technical and organizational aspects of the project to be managed
4.5	Design team facilitation and orchestration	Regulation 8 (1)	The requirement that all designers have the skills, knowledge and experience necessary
4.6	Information management	Regulations 8 (6) and 11 (2)	Providing all relevant information in a timely and comprehensible manner
4.7	Communication and cooperation	Regulations 8 (4) and 11 (7)	The duty to liaise and cooperate with other duty holders
4.8	Appropriate behaviour	Guidance paragraph 95	Having the technical knowledge, skills and experience relevant to the project

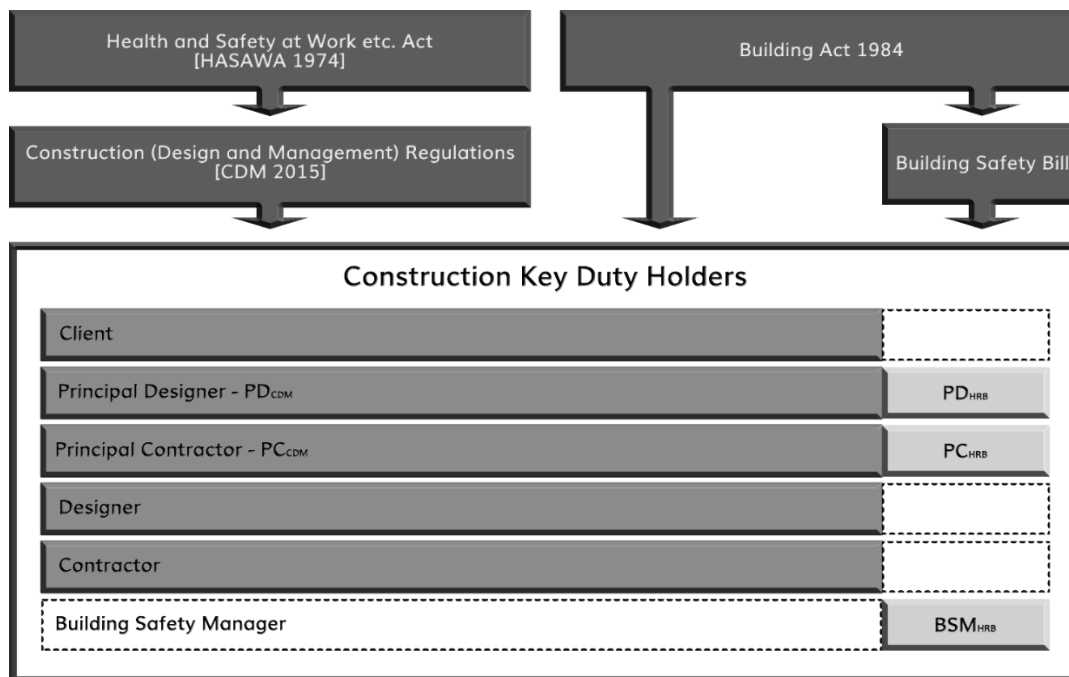
Part 3 of the Building (Appointment of Persons, Industry Competence and Dutyholders) addendum to the Bill states that a PD_{HRB} can also be the PD_{CDM} if so appointed. Therefore, an individual or organization undertaking this role would require competency in both: for PD_{HRB} under the PAS and for PD_{CDM} under the CDM2015. Whilst the inference of competence may be considered equivalent, the terminology is quite different.

Whilst CDM2015 refers to the "health and safety" of those affected by any construction project, it is considered that their *raison d'être* is to ensure the effective management of risk throughout the life cycle of any project output. This is made clear by the requirement to: provide information; ensure cooperation and communication; establish levels of competency; and to eliminate, reduce, and control risks. The guidance also makes clear that the application of the requirements of the regulations should



be proportionate to the project. The focus of the Bill is to improve “safety” in the design, construction and habitation of higher-risk buildings. In essence then, both sets of legislation are concerned with advocating functional safety in construction.

CDM2015 does not distinguish between any particular project output, as in the case of the Bill. Other higher-risk buildings will not benefit from the protection of the requirements of the PASs until such time as legislation is amended, although they will clearly always be subject to the requirements of CDM2015.



The Bill also defines a new duty holder called the building safety manager, a person that may have similar skills to other safety professionals within engineering and construction, who are also accountable for creating and maintaining safety cases. CDM does not specifically call upon safety cases by name, although it does require risks to be identified and managed accordingly.

Existing Standardized Competency Measurement

CDM2015 requires a PD_{CDM} to ensure they have the appropriate skills, knowledge and experience to fully comply with their obligations, with regard to the size and type of the project to which they are appointed. The ICM competency register for principal designers currently has six levels of attainment, ranging from those apprenticed to the profession to those who have experience of complex, high-risk, or high-value projects.

BSI Flex 8671 specifies the competency requirements more explicitly, both for general building work and that involving HRBs. There is currently no standard for the role of PD_{CDM}.

The principal difference between the required competencies for PD_{HRB} and PD_{CDM} roles is that the PD_{HRB} is required to demonstrate knowledge of the Building Regulations applicable to the project. This is both explicit and implicit in CDM2015 by virtue of each and every duty holder (client, designer, principal designer, and principal contractor) being responsible for checking their own competency as well as that of other duty holders. Therefore, a designer would be required to provide a design risk assessment to demonstrate that their design meets with any relevant regulations.



Recommendations

In order to provide a holistic approach to the safe design, construction and use of all types of structures, it is recommended that a standardized approach is agreed for all five key duty holders under CDM 2015 using BSI Flex 8670. This approach should include the measurement of the specific higher competences required for HRBs (>18m) as well as other high-risk projects is set.

- 1) It is proposed that there is a common competency requirement for key duty holders across all construction.
- 2) Competency for the key duty holders is to be split into a number of types or levels, denoting those who have general knowledge, and those who have specific skillsets pertinent to particular types of construction or levels of risk.
- 3) The competency framework should allow for collaboration between each group of key duty holders to provide a pathway for individuals and organizations to increase their competency in other areas of responsibility.
- 4) A central register is to be held for key duty holders' competencies, based on their skills, knowledge, experience, and training requirements.
- 5) The register should use Bloom's Taxonomy to assist certifying bodies in gauging their members' competency.
- 6) The key duty holders on any given project should be required to demonstrate their competence relevant to the size and type of project to which they have been appointed.
- 7) Regulation 5 of CDM2015 and Regulation 6 of Part 3 of the Building (Appointment of Persons, Industry Competence and Dutyholders) are amended so that there is a requirement for a principal designer on all construction projects.
- 8) The principal designer on any given project could be a single designer, or any of the other duty holders, dependent on the size and type of project and their level of competency.
- 9) The framework for the measurement and control of key duty holder competencies should be defined in a PAS along similar lines to PAS 525 – Framework for assessing professional engineering competence.