Construction (Design and Management) Regulations 2003 (CDM)

The Role of the Designer

CDM Information Sheet no 3

Introduction

This information sheet gives guidance on the duties of the designer under the Construction (Design and Management) Regulations 2003 (CDM Regulations). If you are a designer (see below), you have specific legal duties to carry out.

The CDM Regulations are aimed at improving the overall management and co-ordination of health, safety and welfare throughout all stages of a construction project to reduce the large numbers of serious and fatal accidents and cases of ill health which occur every year in the construction industry.

The CDM Regulations place duties on all those who can contribute to the health and safety of a construction project. Duties are placed upon clients, designers and contractors and the Regulations create the duty holder - the planning supervisor. They also introduced the documents - health and safety plans and the health and safety file.

The degree of detail, as well as the time and effort required to comply with your legal duties, need only be in proportion to the nature, size and level of health and safety risks involved in the project. Therefore, for small projects with minimal health and safety risks, you will only be required to take simple, straightforward steps and few, if any, specialist skills will be needed.

Who are designers?

Designers are organisations or individuals who carry out design work for a construction project, including temporary works design. Designers may include architects, consulting engineers, quantity surveyors, chartered surveyors, technicians, specifiers, principal contractors and specialist contractors. The term ‘design’ is a wide term under the CDM Regulations and includes drawings, design details, specifications and bills of quantity.

The designer’s role in health and safety throughout the project

You play a key role within the construction project in ensuring that the health and safety of those who are to construct, maintain or repair a structure are considered during the design process. If you don’t do this it could delay the project, make it much more difficult for contractors to devise safe systems of work and cause the client to make costly changes so that the structure can be maintained safely.

As the design of a project develops from the initial concept through to a detailed specification, you and other designers may be involved. Designers from all disciplines have a contribution to make in avoiding and reducing health and safety risks that are inherent in

the construction process and subsequent work (eg, maintenance). The most important contribution a designer can make to improve health and safety will often be during the concept and feasibility stage when the main considerations will be about the different design options that are open so that potential hazards can be avoided. Once the design process moves into detailed design and specification, designers can continue to make a significant contribution to avoidance and reduction of risks to health and safety, particularly in relation to the specification of materials and substances.

Example

A designer will be able to determine the location of the structure on the site. This could affect how close construction plant has to come to railway lines, roads and overhead power lines.

Example

By specifying a 'non-fishtail' brick tie, a designer can eliminate the risk of cuts and eye injuries from temporarily exposed ties.

What are the designer's duties under the CDM Regulations?

You have the following duties in relation to health and safety under the CDM Regulations:

- make clients aware of their duties;
- give due regard to health and safety in your design work;
- provide adequate information about the health and safety risk of the design to those who need it;
- co-operate with the planning supervisor and, where appropriate other designers involved in the project.

Make clients aware of their duties

You should not start preparing any design work until the client is aware of their duties under the CDM Regulations. You have a legal duty to explain to the client their responsibilities under the Regulations. CDM Sheet 1 on the role of the client will help you. Where appropriate, you could advise the client to seek professional advice for help in complying with their duties.

Give due regard to health and safety in your design work

When you carry out your design work you have to consider the potential effect of your design on the health and safety of those carrying out the construction work and others affected by the work. To do this you will need to assess the risks of your design that can reasonably be foreseen. Usually this will include risks to those building, maintaining or repairing the structure as well as those who might be affected by this work (eg members of the public).

To ensure that risks to health and safety are fully considered in your design work, you will find it helpful to take the following steps:

- identify the significant health and safety hazards likely to be associated with the design and how it may be constructed and maintained;
- consider the risk from the hazards which arise as a result of the design being incorporated into the project;
- if possible, alter the design to avoid the risk, or where this is not reasonably practicable, reduce it.

When you consider health and safety in your design work, you will need, so far as reasonably practicable, to avoid or reduce risks by applying a series of steps known as the hierarchy of risk control or principles of prevention and protection. This simply involves the following:

- consider if the hazard can be prevented from arising so that the risk can be avoided (eg, alter the design to avoid the risk);
- if this cannot be achieved, the risk should be combated at source (eg, ensure the design details of items to be lifted include attachment points for lifting);
- failing this, priority should be given to measures to control the risk that will protect all people (eg allow a one-way system for delivery and spoil removal vehicles);
- only as a last resort should measures to control risk by means of personal protection be assumed (eg, use of safety harnesses).

When considering health and safety in your design work, you are only expected to do what is reasonable at the time the design is prepared. It may be possible for hazards that cannot be addressed at the feasibility stage to be looked at during detailed design. In deciding what is reasonably practicable, the risk to health and safety produced by a feature of the design has to be weighed against the cost of excluding the feature.

The overall design process does not need to be dominated by a concern to avoid all risks during the construction phase and maintenance. However, a judgement has to be made by weighing up one consideration against another so the cost is counted not just in financial terms, but also those of fitness for purpose, aesthetics, buildability or environmental impact. By applying these principles, it may be possible to make decisions at the design stage that will avoid or reduce risks during construction work. In many cases, the large number of design considerations will allow a number of equally valid design solutions. What is important is your approach to the solutions of design problems. This should involve a proper exercise of judgement that takes account of health and safety issues.

Providing information on health and safety

When you have carried out your design work and concluded that there are risks that it are not reasonably practicable to avoid, information needs to be given about risks which remain. This information needs to be included with the design to alert others to the **risks that they cannot reasonably be expected to know**. This is essential for the parties who have to use the design information. For example, the planning supervisor who has to ensure the pre-tender stage health and safety plan and the health safety file are prepared, the principal contractor and other contractors who use the design information and the actual individuals carrying out the work.

If your basic design assumptions affect health or safety, or health and safety risks are not obvious from the standard design document, you should provide additional information.

The information should include a broad indication of your assumptions about the precautions for dealing with the risks. The information will need to be conveyed in a clear manner; it could be included on drawings, in written specifications or outline method statements. The level of detail to be recorded will be determined by the nature of the hazards involved and the associated level of risk.

Co-operation

Even on small projects it is unlikely that one designer will carry out all the design work. You will therefore need to liase with the planning supervisor and other designers so that the work can be co-ordinated to see how the different aspects of designs interact with each other and affect health and safety. Liaison is also needed so that the planning supervisor can ensure designers are fulfilling their duties.

Where there is an overlap in the design work you may need to exchange drawings and other design information, which is relevant to health and safety. If a common format for the exchange of information is agreed or set down by the planning supervisor, this can help the process of co-operation. In addition, agreement will need to be reached to ensure health and safety is considered eg, agreeing acceptable access arrangements for services in ducts and above ceilings.

Further CDM information sheets

No 1 The role of the client
No 2 The role of the planning supervisor
No 4 The pre-tender stage health and safety plan
No 5 The health and safety plan during the construction phase
No 6 The health and safety file