

# COSBEDMO21 - SQA Unit Code HG3V 04

## Manage health and safety risks in built environment design development



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### Overview

This unit is about identifying the hazards arising from the design process, eliminating them where possible, and minimising the risks arising from any residual hazards. For the purposes of this Unit, a hazard is something with the potential to cause harm, and a risk is the likelihood of harm being caused, and the degree of its severity. The strategy for managing risk uses a hierarchy of eliminate/reduce/inform/control measures.

**Performance criteria**

*You must be able to:*

**Review and assess health and safety hazards in design development**

- P1 check that **clients** are made aware of the **relevant health and safety regulations**, their obligations in relation to them and the advantages in complying with them
- P2 collaborate with **interested parties** so that the designs comply with **relevant health and safety regulations** throughout the **project stages**
- P3 identify **operations and individual activities** that may give rise to **hazards**
- P4 identify and prioritise the **hazards** arising from **operations and individual activities**
- P5 obtain accurate information on any **potential consequences** resulting from the **hazards**
- P6 **assess** the **hazards** to identify **risks** on an iterative basis throughout the development process

**Make design choices to manage health and safety risks**

*You must be able to:*

- P7 eliminate identified **hazards** whilst **developing and modifying designs** throughout the **project stages**
- P8 reduce identified **risks** arising from **hazards** which are not eliminated when **developing and modifying designs**
- P9 give collective **measures** priority over individual **measures** when reducing **risks**
- P10 verify that the **risk reduction measures** comply with **relevant health and safety regulations** and guidelines
- P11 record in **design information** any information needed by **other people involved** so that they can comply with their duties under **relevant health and safety regulations**

## Knowledge and understanding

*You need to know and understand:*

### Review and assess health and safety hazards

- K1 how to check that **clients** are made aware of the **relevant health and safety regulations**, their obligations in relation to them and the advantages in complying with them (application)
- K2 how and why to collaborate with **interested parties** so that the designs comply with **relevant health and safety regulations** throughout the **project stages** (synthesis)
- K3 what to identify as **operations and individual activities** that may give rise to **hazards** (understanding)
- K4 what to identify as the **hazards** arising from **operations and individual activities** (understanding)
- K5 how and why to prioritise the **hazards** arising from **operations and individual activities** (analysis)
- K6 how to obtain accurate information on any **potential consequences** resulting from the **hazards** (application)
- K7 how and why to **assess** the **hazards** to identify **risks** on an iterative basis throughout the development process (analysis)

### Make design choices to manage health and safety risks

*You need to know and understand:*

- K8 how to eliminate identified **hazards** whilst **developing and modifying designs** throughout the **project stages** (application)
- K9 how and why to reduce identified **risks** arising from **hazards** which are not eliminated when **developing and modifying designs** (synthesis)
- K10 how and why to give collective **measures** priority over individual **measures** when reducing **risks** (analysis)
- K11 how to verify that the **risk reduction measures** comply with **relevant health and safety regulations** and guidelines (application)
- K12 how to record in **design information** any information needed by **other people involved** so that they can comply with their duties under **relevant health and safety regulations** (application)

## Scope/range

### Review and assess health and safety hazards

- 1 Clients:
  - 1.1 customers
  - 1.2 owners
  - 1.3 users
  - 1.4 occupiers
- 2 Relevant health and safety regulations:
  - 2.1 CDM regulations and Approved Codes of Practice
  - 2.2 current health, safety and welfare regulations
  - 2.3 Construction and Building Regulations
- 3 Interested parties:
  - 3.1 CDM co-ordinator
  - 3.2 other designers
  - 3.3 specialist advisors
  - 3.4 clients
  - 3.5 facility/asset managers
  - 3.6 construction and construction managers
  - 3.7 contractors and specialist contractors
- 4 Project Stages:
  - 4.1 Stage 4 (Design)
  - 4.2 Stage 5 (Build and Commission)
- 5 Operations and individual activities:
  - 5.1 constructing (infrastructure, structure, building fabric, finishes, services and equipment, landscape)
  - 5.2 using
  - 5.3 cleaning
  - 5.4 maintaining
  - 5.5 altering
  - 5.6 demolition
  - 5.7 commissioning and decommissioning
- 6 Hazards:
  - 6.1 falls from height
  - 6.2 slips, trips and falls

**Scope/range**

- 6.3 hit by falling or moving objects
- 6.4 manual handling
- 6.5 health issues
- 6.6 power sources
- 6.7 hazardous substances
- 6.8 trapped by something collapsing or overturning
- 6.9 confined spaces
- 6.10 fire
- 6.11 obstructions
- 6.12 moving vehicles
- 7 Potential consequences:
  - 7.1 injuring people
  - 7.2 causing ill health
  - 7.3 damaging property
  - 7.4 adversely affecting the natural and built environment
  - 7.5 contravening legislative requirements
  - 7.6 litigation and prosecution
  - 7.7 working conditions and circumstances, buildability
- 8 Assess:
  - 8.1 likelihood of occurrence
  - 8.2 severity of harm incurred
- 9 Risks:
  - 9.1 high
  - 9.2 medium
  - 9.3 low

**Make design choices to manage health and safety risks**

- 10 Hazards:
  - 10.1 falls from height
  - 10.2 slips, trips and falls (same height)
  - 10.3 hit by falling or moving objects
  - 10.4 manual handling
  - 10.5 health issues

**Scope/range**

- 10.6 power sources
- 10.7 hazardous substances
- 10.8 trapped by something collapsing or overturning
- 10.9 confined spaces
- 10.10 fire
- 10.11 obstructions
- 10.12 moving vehicles
- 11 Developing and modifying:
  - 11.1 planning
  - 11.2 investigation
  - 11.3 verifying competence and resources
  - 11.4 analysis
  - 11.5 identifying interactions
  - 11.6 calculation
  - 11.7 testing
  - 11.8 selecting materials, components and systems
  - 11.9 detailing and specifying
  - 11.10 consideration of costs and benefits (including lifestyle costing)
- 12 Designs:
  - 12.1 infrastructure
  - 12.2 structure
  - 12.3 building fabric
  - 12.4 prefabrication
  - 12.5 finishes
  - 12.6 services and equipment
  - 12.7 landscape
  - 12.8 temporary works
- 13 Project Stages:
  - 13.1 Stage 4 (Design)
  - 13.2 Stage 5 (Build and Commission)
- 14 Measures:
  - 14.1 eliminate
  - 14.2 reduce

**Scope/range**

- 14.3 inform
- 14.4 control
- 15 Risks:
  - 15.1 high
  - 15.2 medium
  - 15.3 low
- 16 Design documentation:
  - 16.1 drawings
  - 16.2 specifications
  - 16.3 models
  - 16.4 calculations
  - 16.5 Health and Safety Plans and Files
- 17 Relevant health and safety regulations and guidelines:
  - 17.1 CDM regulations and Approved Code of Practice
  - 17.2 current health, safety and welfare regulations
  - 17.3 construction and Building Regulations
- 18 Other involved people:
  - 18.1 contractors
  - 18.2 operators
  - 18.3 facility/asset managers
  - 18.4 owners
  - 18.5 users

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