



A Designer's Perspective of the European Directive

Temporary & Mobile
Construction Sites Directive
92/57/EEC

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David Watson

SCOTT
BROWNRIGG

UNITED
BY OUR
DIFFERENCE



The HSE is reviewing all it's guidance

to ensure it is **practical and proportionate** and helps organisations understand and comply with health and safety law.

Why?

- To ensure it is **clear and fit for purpose**;
- To make the law **simpler and less bureaucratic for all businesses**
- Making Britain more growth-focused by **easing the burden of bureaucracy on all businesses.**

And to ensure H&S “Myths” are busted



The Construction Industry “Disconnect”

Other drivers for change:-

Professor Lofstedt-

- Too many different CDM interpretations
- Too much trivial risk assessment
- Bureaucratic nightmares
- Much confusion over SFARP
- ACOP's need simplification

Lord Young of Graffham

- Reasonable **NOT** 'All risk' approach
- Disproportionate compensation culture
- Reduce overzealous H&S approaches

CDM 2007 Evaluation Report

- Poor coordination & cooperation
- Too much competence assessment
- Improve value generally & H&S standards on small sites

Not just a political agenda?



What is the Essence of CDM ?

Designer duties under other GB legislation (ie. non-CDM)

H&S at Work Act 1974

Requires:-

Employers & self-employed to ensure, **SFARP**, that persons who may be affected are not exposed to risks

Employees to take **reasonable care**for the health and safety of himself and of other persons who may be affected by his acts or omissions at work

**Communication & Interpretation
are key?**



What really is SFARP !!!!!

Designer duties under other GB legislation (ie. non-CDM)

Management of H&S at Work Regulations 1999

Requires:-

Employers & self-employed to make **suitable and sufficient assessment** of risks to non-employees

Employers & self-employed to **apply the principles of prevention**

Proportionately and to everyone



P..p..p..principles of x * ! @ ?

The EU Framework Directive 1989 “...workers at work”



- All workers to be responsible (afap) for their own health & safety and for that of others affected.
- Employers to ensure the safety of workers unless **unusual and unforeseeable circumstances and events**
- Workers must have **necessary capabilities and means**
- **Persons consulted** must have necessary **aptitudes and personal and professional means**
- Workers and **persons consulted** must be **sufficient in number**
- Member States to define necessary **capabilities & aptitudes**

**Proportionate Health & Safety
and “training”**



**What is competence?
Surely the Trades & Professions know?**

The EU Directive 1992 “Temporary and Mobile Construction Sites”



Need for the TMCS Directive :-

Unsatisfactory **architectural organizational options and poor planning** at Project Preparation Stage have **“played a role”** in 50% of accidents on Construction Site’s

Inadequate **coordination** of various undertakings at Project Preparation and Execution Stages **“may have caused”** many accidents

**How could this be improved.....
by better guidance?**



A big ask?

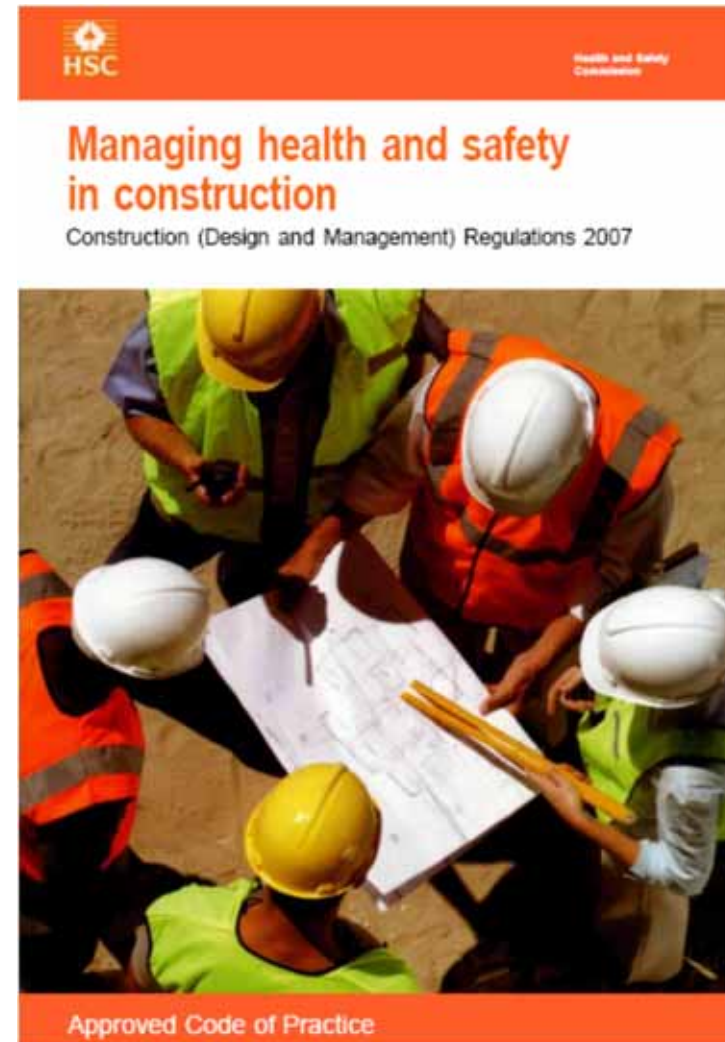
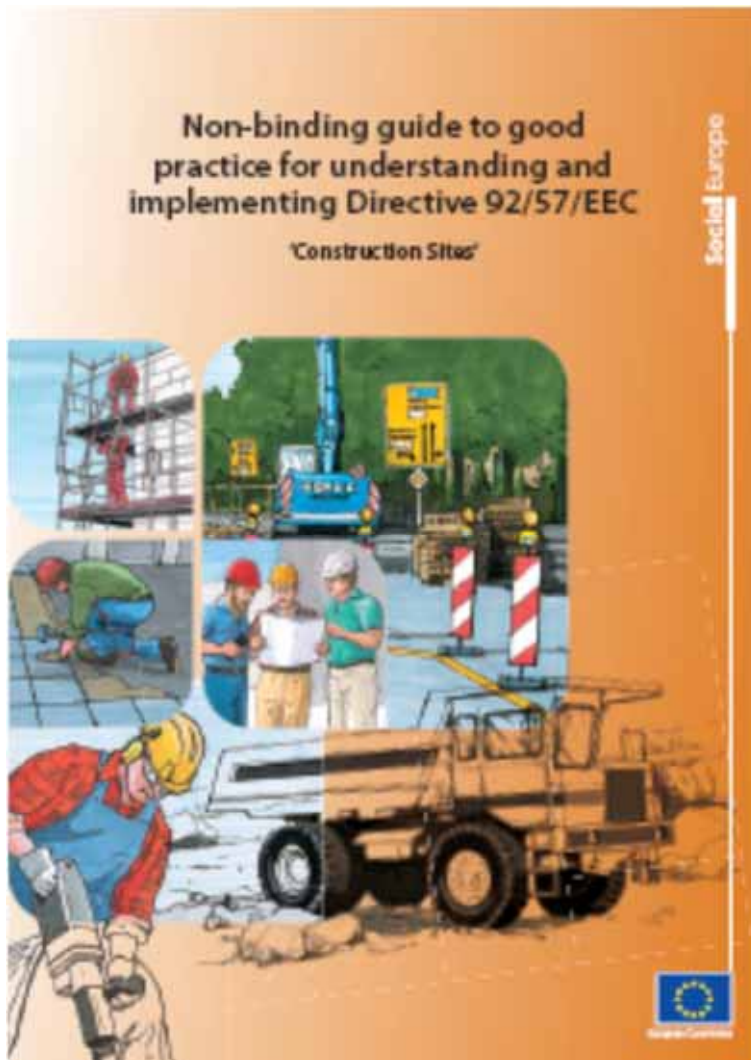
Guidance
EU -2011

ACOP
UK- 2007

SCOTT
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185 Pages

122 Pages



Both very long and complex documents?

HSE target 32 Pages for New ACOP's?

Tertiary Guidance EU

UK- All dutyholders



None

Is this necessary?

The relevant information is in the Non - Binding Guidance?



Additional 300 All Approx. 50 pages

Simplification is the key

Avoids additional bureaucracy



Colour Coding & Contents

EU

UK

SCOTT
BROWNRIGG⁺



Contents

Introduction	3
What are the goals	3
For questions on important topics	3
Article type	12
Approved	18
1. General principles of prevention (GPP) as cultural health growth	17
11. What is a cultural health growth?	18
12. General principles of prevention	18
13. Application	20
14. Further examples of applying the general principles of prevention	28
2. Safety and health responsibilities of competent persons for construction work	27
21. What is a competent person?	28
22. What is a competent person?	28
23. The responsibilities of a competent person	28
24. Documents required for prevention	37
25. The role of a competent person	43
3. Health and safety during all stages of a construction project - some examples	56
31. Site	56
32. Excavation and shoring	59
33. Excavation pits	71
34. Excavation traffic	71
35. Excavation in residential areas	71
36. Excavation in mixed building systems	72
37. Excavation in gardens and parks	72
38. Excavation in the case of retention	72
39. Excavation in health	72
310. Trenches	78
311. Trenches	78
312. Trenches	78
313. Trenches	78
4. Management of the construction of the project	79
41. The project management stage	80
42. The construction stage	80
5. General obligations of each stakeholder during the construction project	111
ANNEX	119
Annex I - CDM	119
Annex II - Safety of structures	121
Annex III - The competent person	124
Annex IV - Design of work	124
Annex V - Information for the competent person	124
Annex VI - Information for the competent person	124
Annex VII - Design of work	124
Annex VIII - Design of work	124
Annex IX - Design of work	124

Both use
colour
coding

EU more
intuitive

EU easier
to browse

Contents

Table of Approval

Introduction	1
Application of the Regulations	2
Definitions	3
Notification	3
Co-operation and co-ordination	4
Taking account of the general principles of prevention	4
Statement of the duties under the Regulations	7
Client	9
Who are clients?	9
What duties must be for all projects	9
Additional things clients must do for notifiable projects	14
Completion and handover (all projects)	16
What clients don't have to do	16
The CDM co-ordinator (notifiable projects only)	19
Appointing the CDM co-ordinator	19
What CDM co-ordinators should do	19
The CDM co-ordinator and the construction phase	21
Health and safety file	23
What CDM co-ordinators don't have to do	24
Designers	25
What designers should do for all projects	27
Making clients aware of their responsibilities	27
Preparing a design	28
Providing information	29
Co-operation	30
Additional duties where the project is notifiable	31
What designers don't have to do	32
The principal contractor (notifiable projects only)	33
What principal contractors must do	33
Co-operation and co-ordination	34
How many principal contractors can there be for each project?	35
Planning and managing health and safety in the construction phase	35
Controlling access onto sites	37
Site induction, training and information	38
What principal contractors don't have to do	37
Contractors and the self-employed	41
What contractors must do on all projects	41
Planning and managing construction work	42
Site induction, information and training	42
Additional duties for notifiable projects	42
Competence and training	43
How to assess the competence of organisations	49
How to assess the competence of individuals	47
Assessing the competence of individual designers and CDM co-ordinators	44
Worker engagement and communication	55
What you are required to do for all projects	53
Additional arrangements for notifiable projects	51





Key questions on important topics

This section has a list of key questions arranged under the following headings. The questions cover essential issues for each stakeholder. You may find it helpful in accessing the text that you require.

Clients	→ See questions 30 to 31
Coordinators	→ See questions 52 to 66
Coordinators for safety and health matters at the project preparation stage	→ See questions 52 to 59
Coordinators for safety and health matters at the project execution stage	→ See questions 60 to 66
Designers	→ See questions 67 to 73
Employers	→ See questions 74 to 85
Employers who themselves carry out construction work	→ See question 86
General questions	→ See questions 7 to 14
Large sites	→ See questions 25 to 29
Medium sites	→ See questions 20 to 24
Prior notice	→ See questions 91 to 93
Project supervisors	→ See questions 88 to 89
Safety and health plan	→ See questions 94 to 96
Safety and health file	→ See questions 97 to 99
Small sites	→ See questions 15 to 19
Self-employed persons	→ See questions 87
Workers and workers' representatives	→ See questions 90

General questions

1	Advice: Where can I get more advice and assistance?	→ See Annex B — More information	p. 177
2	Annex IV to the Construction Directive: What is it?	→ See 4.2.1(b), Article 8 and Annex IV to Directive 92/57/EEC and Article 6 of Framework Directive 89/391/EEC	p. 106
3	Construction project: What is it?	→ See 2.1, What is a 'construction site'?	p. 32
4	Construction site: What is it?	→ See 2.1, What is a 'construction site'?	p. 32
5	Construction work: What is it?	→ See 2.2, What is 'construction work'?	p. 32
6	Competence: What is it and how can I assess it for those I employ or appoint?	→ See 2.3.5, Coordinators for safety and health matters	p. 41
7	Directive: What is it about, why is it needed, how does it affect me?	→ See Introduction	p. 3

No index or equivalent in ACOP

Difficult to navigate

Not easy for infrequent users to find key issues fast

Search by Topic

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Index by topic

Topic	Where can I find the main information on this topic
Advance works	p. 62, 94
Alteration	p. 64
Asphyxia	p. 75
Biological substances	p. 63, 64
Burial under earth fall	p. 64, 108
Burns	p. 70-74
Chemical substances	p. 65
Client	p. 36, 85, 93
Collective protective measures	p. 18, 21, 26, 101, 103
Compressed air caissons	p. 63, 65
Construction site	p. 32
Construction stage	p. 103
Construction work	p. 32
Contractor (including subcontractors)	p. 54
Conversion	p. 34
Coordinators for safety and health matters	p. 41
Coordinator for safety and health matters at the project preparation stage	p. 44
Coordinator for safety and health matters at the project execution stage	p. 46
Demolition	p. 35
Design stage	p. 62
Designers	p. 40
Directive 92/57/EEC	p. 3, 16, 32, 70, 80, 132
Dismantling	p. 35
Diving	p. 66
Drainage	p. 33
Drowning	p. 65
Dust	p. 74, 107
Earthworks	p. 33, 65
Electricity	p. 70
Employer	p. 4, 18, 50
End of construction stage	p. 109
Excavation in accordance	p. 64

No equivalent in ACOP

Topic searches are most designer preferred entry level

How to read this guide

There are several ways to read this guide and to find the information of interest to you:

1. Contents

This guide is divided into five chapters which you can consult separately, according to your topic of interest. Every chapter has been printed with different colour bands on the sides of the pages.

Each chapter is divided into numbered paragraphs covering a single item so you can access each item of information.

→ See Contents, p. 7

2. Key questions on important topics

A list of key questions covers essential issues for each stakeholder. You may find it helpful in accessing the text that you require.

→ See Key questions on important topics, p. 8

3. Index by topic

A list of topics or keywords allows you to go directly to the chapters of this guide where references to the topic can be found.

→ See Index by topic, p. 12

4. Table of examples

You can also find information on specific topics using a reference list for the practical examples contained in the guide. The list identifies the size of the project and the type of risks addressed.

→ See Annex 2 — Table of examples, p. 121

5. Glossary

The Construction Sites Directive contains a number of definitions (eg, client) used in the text of the Directive. These definitions are listed in Annex 1 together with some others from the Framework Directives.

→ See Annex 1 — Glossary, p. 120

6. General table of duties

The duties of stakeholders named in the Directive are summarised in a table.

→ See 5. General table of duties of each stakeholder during the construction project, p. 115

7. Explanation of text marking

Excerpts of the European Directives 89/391/EEC and 92/57/EEC are in blue boxes and accompanied by this logo.

Non-binding good practices can be found where this logo is displayed.

Explanatory examples can be found where this logo is displayed.

Introduction

1 The Construction (Design and Management) Regulations 2007 (CDM2007) were introduced on 6 April 2007. They replace the Construction (Design and Management) Regulations 1994 (CDM94) and the Construction (Health, Safety and Welfare) Regulations 1988 (CHSWR). This Approved Code of Practice (ACOP) provides practical guidance on complying with the duties set out in the Regulations. It replaces the ACOP to the Construction (Design and Management) Regulations 1994 from 6 April 2007.

2 The key aim of CDM2007 is to integrate health and safety into the management of the project and to encourage everyone involved to work together to:

- (a) improve the planning and management of projects from the very start;
- (b) identify hazards early on, so they can be eliminated or reduced at the design or planning stage and the remaining risks can be properly managed;
- (c) target effort where it can do the most good in terms of health and safety; and
- (d) discourage unnecessary bureaucracy.

3 These Regulations are intended to focus attention on planning and management throughout construction projects, from design concepts onwards. The aim is for health and safety considerations to be treated as an essential, but normal part of a project's development - not an afterthought or last-minute crisis.

4 The effort devoted to planning and managing health and safety should be in proportion to the risks and complexity associated with the project. When deciding what you need to do to comply with these Regulations, your focus should always be on action necessary to reduce and manage risks. Any paperwork produced should help with communication and risk management. Paperwork which adds little to the management of risk is a waste of effort, and can be a dangerous distraction from the real business of risk reduction and management.

5 Time and thought invested at the start of the project will pay dividends not only in improved health and safety, but also in:

- (a) reductions in the overall cost of ownership, because the structure is designed for safe and easy maintenance and cleaning work, and because key information is available in the health and safety file;
- (b) reduced delays;
- (c) more reliable costings and completion dates;
- (d) improved communication and co-operation between key parties; and
- (e) improved quality of the finished product.

Typical operating and running costs of a building* are in the ratio:

- 1 for construction costs;
- 10 for maintenance and building operating costs;
- 200 for business operating costs.

*Report of the Royal Academy of Engineering on The Long-term costs of owning and using buildings (1996).

Simple explanation of format

No clear explanation of format?

1.2.1 Avoiding risks

One way of avoiding risk is to eliminate entirely the hazard that gives rise to the risk.

Example 2:
There are hazards from entering confined spaces in sewage treatment plants such as underground chambers associated with surface and foulwater systems. However, if the design is changed so that such places are open to the external atmosphere and well-ventilated, those hazards will not be present.

Example 3:
On a small domestic extension the electrician specified the use of dry lining throughout the new kitchen and changing the layout for the installation of electrical and other services. This would the risk to the health of the workers from dust, noise and vibration.

If hazards would be eliminated it may still be possible to avoid some of the risks. For instance, there are hazards associated with noisy work activities that cannot be entirely eliminated. However, there are often alternative ways of completing the work that avoid some if not all of the risks. It is useful to think as broadly as possible and not be constrained by current practice.

Example 4:
Mechanizing activities (lifting using cranes) lifting heavy blocks can cause musculoskeletal problems. The risk of injury can be reduced by specifying alternatives such as smaller or lighter blocks.

Example 5:
There will always be hazards from the movement of heavy materials but the risk from manual handling can be reduced by careful re-orientation of the way materials are packaged, unloaded, moved and moved away by introducing mechanical handling methods, use of cranes, hoists, pulley blocks, etc.



1.2.2 Evaluating the risks which cannot be avoided

A structured approach should be taken in evaluating risks.

Risk assessment is a five-step process:



- Step 1 — Identify the hazards and those at risk.
- Step 2 — Evaluate and prioritise the risks.
- Step 3 — Decide on preventative actions.
- Step 4 — Take action.
- Step 5 — Monitor and review.

Having a written record is required so that essential information can be passed on to others, making it a key tool to develop and providing an information base for which to carry out review.

→ See 1.1, Risk assessment, p.21

Example 6:
A considerable amount of cold lead paint has to be removed during restoration work.

Step 1 — Identify the hazard (exposure to lead). Potential exposure to lead might cause health problems. Those at risk are the workers doing the work, other workers nearby and the general public, who live in the vicinity, especially the vulnerable.

Step 2 — Evaluate and prioritise the risk (consider the probability of exposure to lead. Consider how it will be formed and the severity. Consider the possible routes by which the lead might enter the body (ingestion, inhalation, absorption). Consider the possible means for reducing the exposure of workers and others by the choice of work methods and other related precautions.

Step 3 — Decide on the preventative actions that will protect the occupational health of the workers and others. Decide the necessary monitoring and assessment arrangements (e.g. noise by using, use one step for use of formalin, use of protective clothing, good welfare and washing arrangements, personal dosing, respiratory protection, instruction and education, etc.).

Step 4 — Provide the necessary materials, protective equipment, welfare facilities, instruction, supervision and monitoring systems.

Step 5 — Carry out monitoring as planned. Review the results for any monitoring and form a good level of control. Reappraise the risk and make any necessary adjustments to the working methods.

ACOP

Designers:

109 Designers are in a unique position to reduce the risks that arise during construction work, and have a key role to play in CDM2007. Design develops from initial concepts through to a detailed specification, often involving different teams and people at various stages. At each stage, designers from all disciplines can make a significant contribution by identifying and eliminating hazards, and reducing their risks from hazards where elimination is not possible.

110 Designers' written decisions fundamentally affect the health and safety of construction work. These decisions influence later design choices, and considerable work may be required if it is necessary to correct earlier decisions. It is therefore vital to address health and safety from the very start.

Example 1:

On a major office development with a large central atrium, the electrical contractor highlighted an innovative product for the roof glazing that was unknown to the other team members, including the designers. This was a double glazed unit incorporating internal prismatic reflectors.

It removed the system of glass and the need for high-level roller blinds. It also virtually maintained heat, and led to significant savings over the life of the building, and significantly reduced the need to work at height.

111 Designers' responsibilities extend beyond the construction phase of a project. They also need to consider the health and safety of those who will maintain, repair, clean, refurbish and eventually remove or demolish all or part of a structure as well as the health and safety of users of workplaces. For most designers, health and safety considerations and ensuring that the structure can be easily maintained and repaired will be part of their normal work, and thinking about the health and safety of those who do this work should not be an onerous duty. Failure to address these issues adequately at the design stage will usually increase running costs, increase claims will then be faced with more costly solutions when repair and maintenance become necessary.

112 When significant risks remain when they have done what they can, designers should provide information with the design to ensure that the CDM co-ordinator, other designers and contractors are aware of these risks and can take account of them (see paragraphs 131-134).

113 Designers also have duties under other legislation, including those parts of the Management of Health and Safety at Work Regulations 1999 which require risk assessment. Compliance with regulation 11 of CDM2007 (as set out in paragraphs 110-145) will usually be sufficient for designers to achieve compliance with regulations 3(1), (2) and (6) of the Management Regulations as they relate to the design of the structure.

114 Advice on the selection of competent designers is given in paragraphs 143-146.

Who are designers?

115 Designers are those who have a trade or a business which involves them in:

- (a) preparing design for construction work, including variations. This includes preparing drawings, design details, specifications, bills of quantities and the

Regulation 11 and 21

ACOP

Regulation 11

Visually clear, sections, easy to browse Legislative look, jargon, not easy to browse

Simple Practical Examples

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UK

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1.2.1 Avoiding risks

One way of avoiding risk is to eliminate entirely the hazard that gives rise to the risk.

Example 3c

There are hazards from entering confined spaces in sewage treatment plants such as underground chambers associated with surface and foul water systems. However, if the design is changed so that such places are open to the general atmosphere and well ventilated, those hazards will not be present.

Example 3e

On a small domestic extension the architect specified the use of dry lining, thus avoiding the need for cutting and chasing masonry for the installation of electrical and other services. This avoided the risks to the health of the workers from dust, noise and vibrations.

If a hazard cannot be eliminated, it may still be possible to avoid some of the risks. For instance, there are hazards associated with many work activities that cannot be entirely eliminated; however, there are often alternative ways of completing the work that avoid some, if not all, of the risks. It is useful to think as broadly as possible and not be constrained by custom and practice.



Example 3f

Block-laying involves repetitive lifting actions. Lifting dense heavy blocks can cause musculoskeletal problems. The risk of injury can be reduced by specifying alternatives such as smaller or lighter blocks.

Simple & useful examples

Designers

109 Designers are in a unique position to reduce the risks that arise during construction work, and have a key role to play in CDM2007. Design develops from initial concepts through to a detailed specification, often involving different teams and people at various stages. At each stage, designers from all disciplines can make a significant contribution by identifying and eliminating hazards, and reducing likely risks from hazards where elimination is not possible.

110 Designers' earliest decisions fundamentally affect the health and safety of construction work. These decisions influence later design choices, and considerable work may be required if it is necessary to unravel earlier decisions. It is therefore vital to address health and safety from the very start.

Example 9

On a major office development with a large central atrium, the electrical contractor highlighted an innovative product for the roof glazing that was unknown to the other team members, including the designers. This was a double glazed unit incorporating internal prismatic reflectors.

It removed the problem of glare and the need for high-level roller blinds. It was virtually maintenance free, and led to significant savings over the life of the building, and significantly reduced the need to work at height.

No visual aides
All written text
Examples relatively obscure

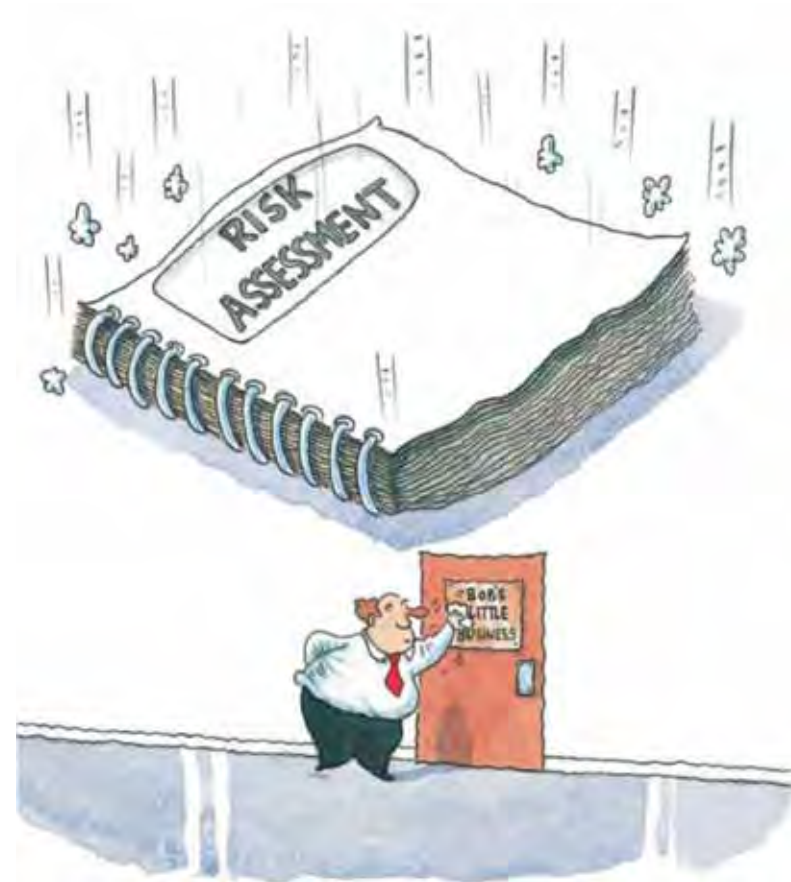
References in non-binding guidance to designers

No specific reference to **designers** in the Directive.

Project supervisor is responsible for the **design** &/or execution &/or supervision of the execution of a project and can include **designers** acting on behalf of a client.

Designer's must **take account of the general principles of prevention** during the various stages of designing the project.

- **Proportionately.....**



Large amounts of bureaucracy are positively dangerous

References to designers in non-binding guidance

The Framework Directive also requires **employers to apply the principles of prevention.**

Designers acting on behalf of **other stakeholders** should take account of **the general principles of prevention** so that they reduce the on-site risks to workers.....not **users.**

Simple Risk Management



Not ill-considered and overprotective actions, and not “in use” issues

TMCS Directive **Applicability** Requirements

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No definition of a “project” except that it is work for a client and includes building or civil engineering work including **repairs and maintenance**

Applies to construction workers & does **not** apply to the safety and health of the **“users”** of the finished project, only maintenance use.

Appointment of coordinator(s) required for H&S matters for **any sites** where there is **more than one** contractor present



Small, simple projects are exempt by reason of proportionality of risk and trade contractor competence.....

TMCS Directive **Notification** Requirements

No 'domestic' client exemption **but**

Notification, to HSE, by client or project supervisor, of all sites on which:

work is scheduled to last more than **30 working days** **and** involve more than **20 workers** at one time;

OR more than **500 person days** of work

Relatively Simple



Project Supervisor / Coordinator 'design' functions

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Project supervisor is responsible for

- the design
- execution of a project
- supervision of the execution of a project

And shall consider the **general principles of prevention**

Project “preparation stage” coordinator

To coordinate implementation of taking account of the principles of prevention

during design

Project “execution stage” coordinator.....

during construction

Coordination still required but by whom?



**Appoint those most appropriate
to coordinate the risks?**

Competence.....but proportionately.

Competence is not mentioned directly in the TMCS Directive however:-

The Principles of prevention require consideration of **the individual's** capabilities as regards health and safety when entrusting tasks to them.

There is therefore a need for more specific training of **capabilities within workers & designers** and a better understanding of **proportionate NOT "all risk"** in the rest of the Construction Industry.

Reasonable Competence



'...are the stakeholders trained and competent?'

Principles of Prevention.....& rocket science

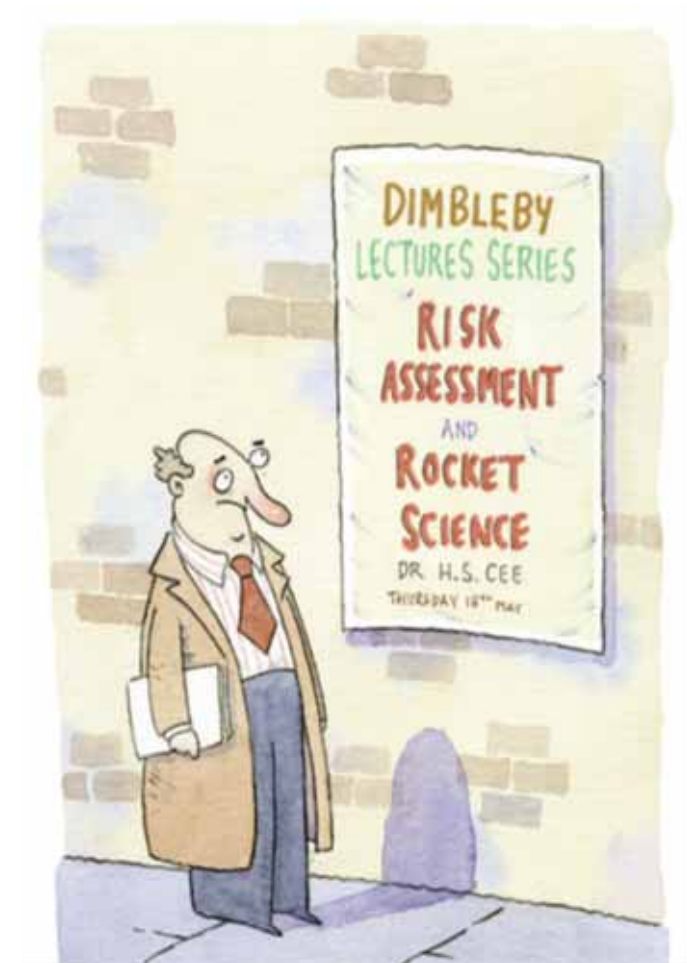
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Principles of prevention apply to all stakeholders and provide a broad strategy for risk control:-

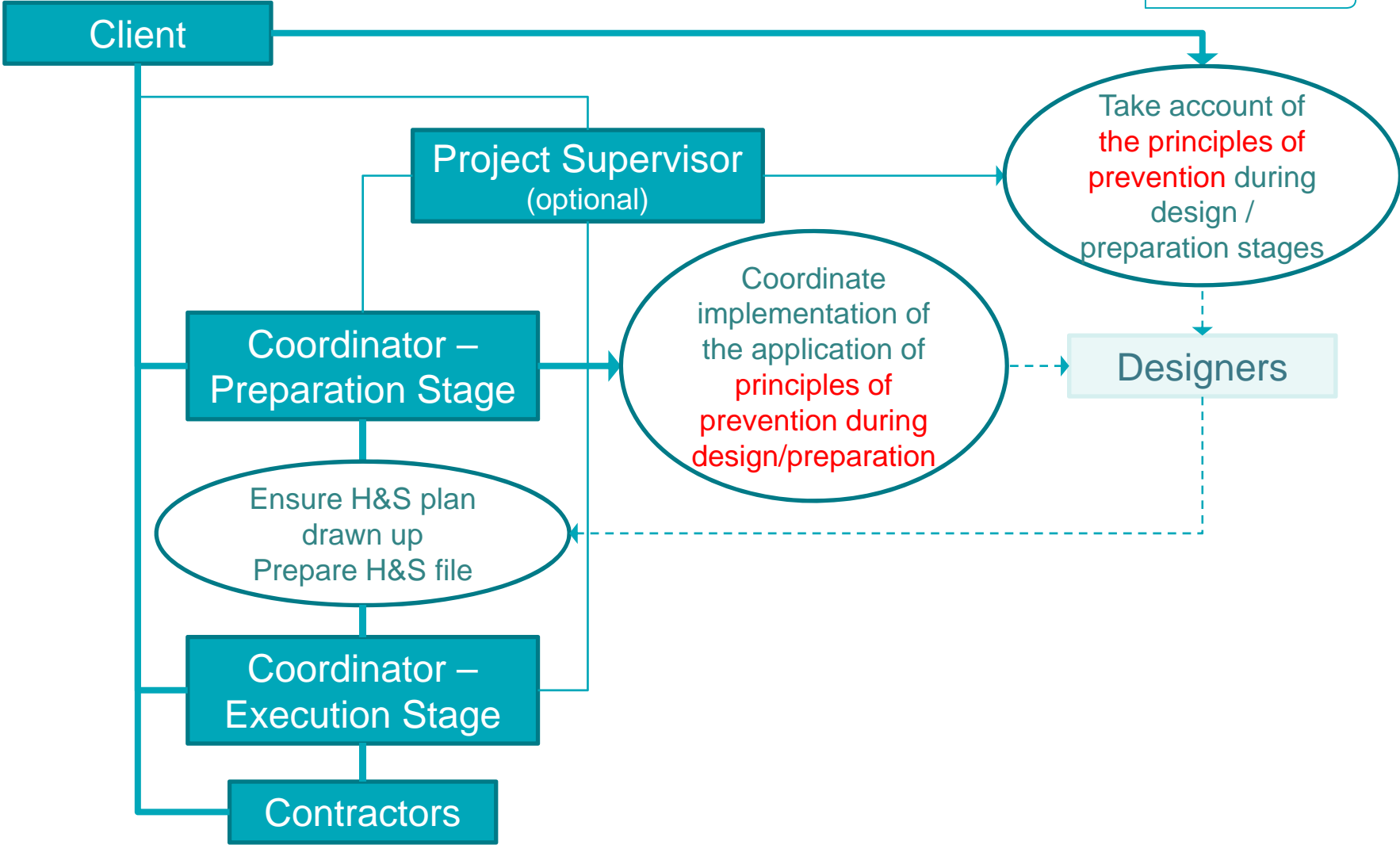
- **Avoiding risk**;
- **Evaluating risks** which can't be avoided;
- **Combating risks** at source;
- Adapting work to the **individual**;
- Adapting to **technical progress**;
- Replacing **dangerous by non or less dangerous**;
- Developing a coherent **overall prevention policy**;
- Giving priority to **collective protection** measures;
- Giving **appropriate instruction** to employees.

**No reference to ERIC or SFARP.... but implied?
A framework for integrated team discussions.**



It's not that difficult

TMCS Directive Design Responsibilities



Summary of key differences for designers?

EU - TMCS

UK- CDM

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All Construction Sites with **multiple contractors**

Pragmatic & proportionate application to all sizes of projects inc. small sites

Functions- Only Client & Project Supervisors plus Coordination

Project Preparation -includes buildability

Project Execution – includes design

Competence not included- **implicit & expected from trades & professions**

All qualifying **Projects plus Use** as Workplaces. Why? **This is gold-plating?**

Domestic exemptions? **Why not all projects because proportionality exempts smallest?**

Duties & Roles of Client, Designers, Principal Contractors, CDM-Coordination ? **Not clear?**

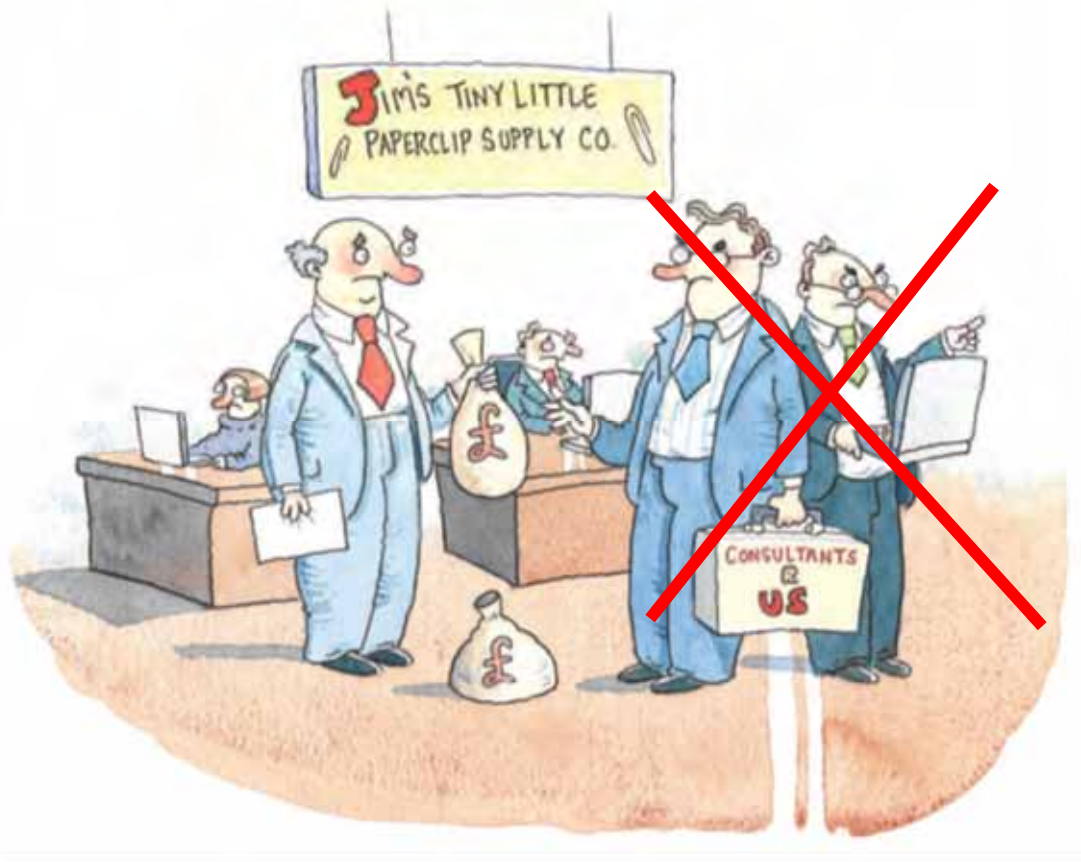
Pre-Construction- Poor construction input?

Construction Phase Poor design input?

Competence expressed? **Why? Trade competences not compulsory in UK.**

Proportionate and Practical Health and Safety

Why have we over-complicated Health and Safety & CDM in the UK?



The Directive encourages business & growth with H&S Compliance

Public Consultation??????

2013??

Designers would like:-

- more **simplification** of regs
- more **clarity** of regs
- less **guidance**
- **Sfarp** clarified by industry
- **Proportionality** accepted
- Better H&S **coordination**
- Better **design & value**
- **Better H&S for all.**



Collaboration and implementation



All we need to do is agree and apply them, proportionately?
Thank-you