

## CDM / Health & Safety

### BACKGROUND TO HEALTH & SAFETY

- Prior to 1974 Health & Safety uncoordinated
  - Employers Liability (Compulsory Insurance) Act 1969
  - Factories Act 1961
  - Offices Shops and Railway Premises Act
- Lord Robens' investigation resulted in Health and Safety at Work Act 1974
- HSWA and subsequent Regulations affect many aspects of our work
  - In the office; eg fire, hazardous materials (inc fumes), computer screens, RSI, stress, etc
  - When out of the office on business, eg lone working, high visibility jackets
  - On construction sites; eg clothing, induction etc
  - In design (public, users, workers doing construction, maintenance, demolition etc)

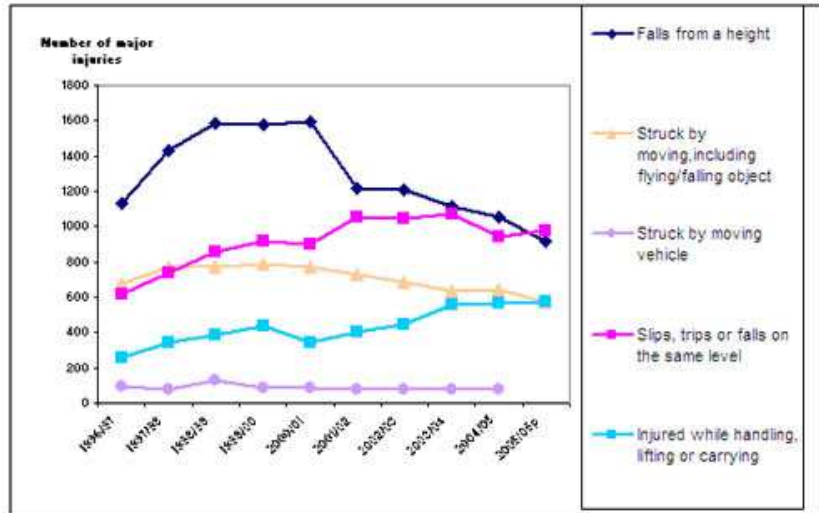
## HEALTH & SAFETY IN CONSTRUCTION INDUSTRY

- Construction industry is the most extensive high risk industry in UK from H&S viewpoint
- Agriculture is also high risk industry, made worse by lone working and poor emergency access
- No separate figures but landscape is probably also high risk particularly when associated with construction industry or when using dangerous equipment while working alone in a remote location
- The chainsaw is the most dangerous piece of equipment for all industries

## DEATHS IN CONSTRUCTION INDUSTRY 5 YEAR PERIOD

Causes	Pre CDM	97/98-01/02
	No	No
Falls	383	177
Falling Materials / Objects	143	
Transport / Mobile plant	137	54
Electrical Hazards	34	
Asphyxiation / Drowning	23	
Fire / Explosions	12	
Miscellaneous	7	
<b>Total</b>	<b>739</b>	<b>439</b>

### MAJOR INJURIES IN CONSTRUCTION INDUSTRY CAUSES 96/97 – 05/06



5

Colin Moore - CDM / Health & Safety A - © 03 January 2012

### DEATHS IN THE CONSTRUCTION INDUSTRY 5 YEAR PERIOD

Type of Person	Pre CDM N°	97/98-01/02 N°
Employees + self employed in the industry	681	411
People unconnected with industry:	58	28
- adults	37	
- children	21	
<b>Total</b>	<b>739</b>	<b>439</b>

**Prior to the introduction of CDM regulations the HSE considered that 90% of incidents could have been prevented and in 70% of cases positive action by management could have saved lives.**

6

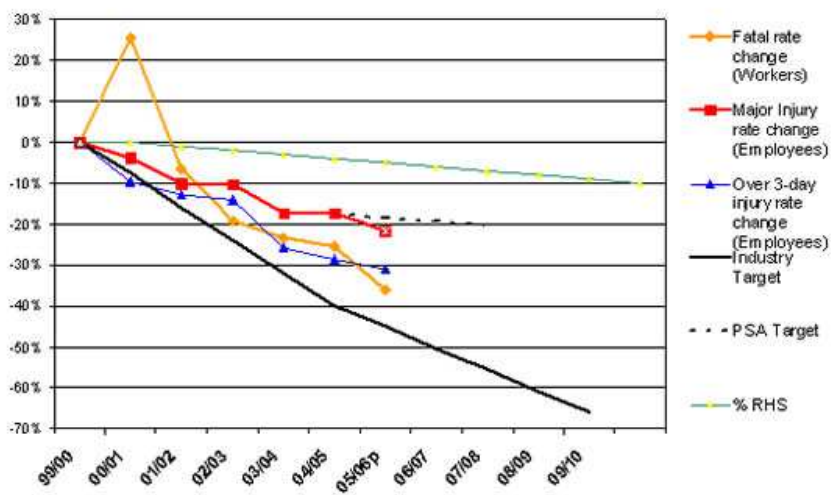
Colin Moore - CDM / Health & Safety A - © 03 January 2012

### INJURIES IN THE CONSTRUCTION INDUSTRY

Year	Fatal			Total	Non-Fatal		Total
	Employee	Self-employed	Public		Workers	Public	
1991/92	83	16	6	105	19,519	148	19,667
92/93	70	26	5	101	15,428	104	15,532
93/94	75	16	6	97	13,647	116	13,763
94/95	58	25	5	88	13,801	121	13,922
95/96	62	17	3	82	12,172	117	12,289
96/97	66	24	3	93	13,720	405	14,125
97/98	58	22	6	86	14,591	339	14,930
98/99	47	18	3	68	14,232	378	14,610
99/2000	61	20	6	87	15,253	403	15,656
00/01	73	32	8	113	14,504	316	14,820
01/02	60	20	5	85	14,290	381	14,671
02/03	57	14	5	76	14,045	259	14,304
05/06	42	17	5	64		188	

In 2001 Construction Industry workers were 6 times more likely to be killed at work than other workers

### DEATHS / INJURIES IN CONSTRUCTION INDUSTRY 99/00 – 05/06



**2.8 Statistics of accidents reported to HSENI 2000/01 – 2003/04**

**Northern Ireland**

**2.8.1. All accidents – fatal, major injury and over 3 day**

Year	Fatal	Major	Over 3 Day	Total
2000/01	12	578	3,421	4,011
2001/02	9	595	3,547	4,151
2002/03	21	650	3,039	3,710
2003/04(P)	19	675	2,623	3,317

**2.8.2. All accidents by industrial sector**

Year	Agriculture	Constr	Mfg&Q'	Educ	Health	Other	Total
2000/01	72	245	1,259	380	498	1,557	4,011
2001/02	57	236	1,195	392	467	1,804	4,151
2002/03	54	212	1,030	481	505	1,428	3,710
2003/04(P)	42	249	963	342	450	1,271	3,317

9

Colin Moore - CDM / Health & Safety A - © 03 January 2012

**2.8 Statistics of accidents reported to HSENI 2000/01 – 2003/04**

**2.8.3. Major accidents by industrial sector**

Year	Agriculture	Constr	Mfg & Q	Educ	Health	Other	Total
2000/01	N/A	68	122	206	52	130	578
2001/02	N/A	55	147	199	58	136	595
2002/03	N/A	60	116	293	58	123	650
2003/04(P)	N/A	81	148	176	86	184	675

**2.8.4. Fatal accident incidence rates per 100,000 workers by industrial sector**

Year	Agriculture	Construction	Manufacturing	All Industries
2000/01	19.16	8.5	1.91	0.94
2001/02	13.69	11.4	1.01	0.93
2002/03	12.4	12.7	1	2.6
2003/04	19.2	10.2	0	2.3

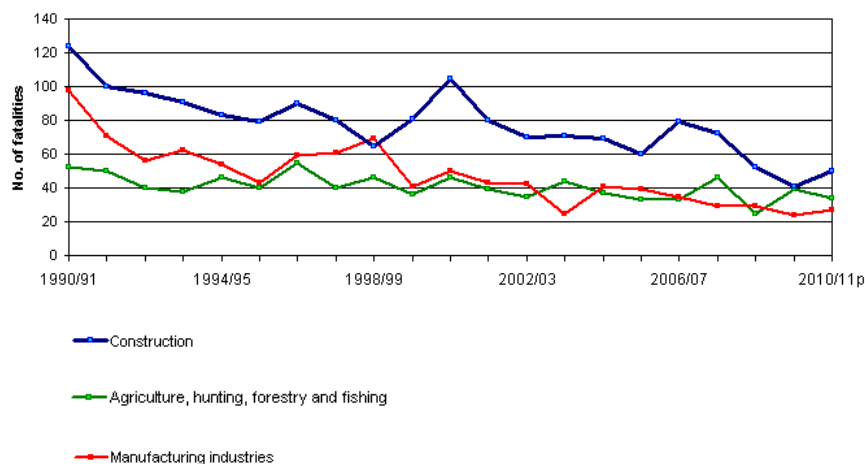
10

Colin Moore - CDM / Health & Safety A - © 03 January 2012

## HSE CONSTRUCTION INDUSTRY STATISTICS Nov 2011

- **Significant improvements in the past 20 years** but Construction Industry remains high risk. 5% employees are in construction in Britain, but 27% of fatally injured employees and 9% of reported major injuries
- **50 fatally injured** in 2011 in construction, average over previous 5 years was 61
- Number of fatally injured has reduced by two-thirds compared to 20 years ago (similar reduction in other industries)
- Reported non-fatal injuries reduced by over a third in 20 years and by a quarter in last 4 years
- **5,000 estimated cancer cases arise each year** resulting from past exposures in the construction industry
- **36,000 estimated new cases of work related ill health arise each year** with rates for musculoskeletal disorder significantly higher than average
- **About 2.3 million working days lost** due to self reported work-related illness or workplace injury (1.1 day/worker, three-quarters due to health and quarter due to injury)
- **2 fatalities of the public (1 under 16 years old) and 174 non-fatal injuries (17 under 16 years old)**

Twenty year trend in worker fatalities (HSE Nov 2011)



## ORIGIN OF CDM REGULATIONS

- ORIGIN OF CDM (1994)
  - HSE and major contractors had been working together to reduce risk
  - Became evident that to continue improvement designers needed to play their part to reduce risk
  - On sites the number of subcontractors was increasing and H&S co-ordination was more important
  - EU Directive
- CDM REGS 2007
  - Regulations substantially revised, in force 6 April 2007
  - Revisions originate from the concerns of the Industry, principles of CDM 1994 sound but deficiencies.
  - Concerns: underlying objectives of CDM 1994 being lost due to complexity of Regs, over-emphasis on bureaucratic processes and paperwork by many duty-holders
  - For example: many designers not integrating health and safety into design process but just doing risk assessments of every conceivable risk at the last minute before tender; many Planning Supervisors producing treatise on health and safety in construction for pre-tender health and safety plans (and missing the unusual risks of the particular project) at least at the early stages of CDM; Planning Supervisors exaggerating their role compared to that required by the Regs; many Clients not taking the Regs seriously, and appointing Planning Supervisors very late; PS not integrated into project teams; ...

## ORIGIN OF CDM REGULATIONS

- CDM 2007 REVISION OBJECTIVES focus on improving risk management
  - Simplifying and clarifying Regs
  - Maximising flexibility, fit different contractual arrangements
  - Focusing on planning and management not paperwork
  - Strengthening co-ordination and co-operation requirements, particularly between designers and contractors
  - Simplifying assessment of competence
- IN ORDER TO encourage everyone to work together to:
  - Integrate health and safety into the management of projects
  - Improve the planning and management of projects from the start
  - Identify hazards early on in projects, eliminate and reduce remaining risks at design/planning stage and manage remaining risks
  - Target effort where most effective and discourage unnecessary bureaucracy and paperwork
  - Consider health and safety an essential part of project development – not afterthought or bolt-on extra
- CDM BASICALLY:
  - Coordinates health and safety throughout the project using a CDM Co-ordinator and Principal Contractor
  - Introduces health and safety into the design as well as the construction process
  - Is concerned with the application of these health and safety procedures

## CDM REGULATIONS 2007

- CDM 2007 REGULATIONS are extensively revised compared to CDM 1994:
  - Regulations reordered, simplified and clarified, small project exclusion removed, domestic projects no longer notified to HSE, client's agent and developer provisions removed
  - Planning Supervisor ceases to exist, enabled CDM Co-ordinator created with increased powers, to support and advise client and co-ordinate design and planning
  - Only notifiable projects need CDM Co-ordinator, Principal Contractor and H&S plan
  - Competence requirements and co-operation/co-ordination duties reinforced
  - Clients duties increased, to ensure suitable management arrangements are in place to ensure HS&W on site, ensure design of workplace structure complies with Workplace Regs, allow sufficient time for each stage of project and advise contractors of time available for planning and preparing for construction work; all applicable to **all** projects
  - Designers duties clarified, eliminate hazards where possible and reduce remaining risks, for notifiable projects designers prohibited from doing more than initial designs until CDM Co-ordinator appointed, and for workplace structures (inc external works) take account of Workplace Regs
  - Incorporate the Construction (Health Safety and Welfare) (CHSW) Regs 1996
  - Pre-tender H&S Plan no longer required, but Pre-construction Information required for **all** projects
  - Included transitional provisions – almost all now irrelevant

## CDM REGULATIONS 2007

- Regulations are in 5 Parts:
  - 1: Introduction
  - 2: General Management Duties Applying to all Construction Projects
  - 3: Additional Duties where Projects are Notifiable
  - 4: Duties Relating to Health and Safety on Construction Sites
  - 5: General
- And 4 Schedules
  - 1: Particulars to be notified to the Executive
  - 2: Welfare Facilities
  - 3: Particulars to be Included in a Report of Inspection
  - 4: Revocation of Instruments

## NOTIFIABLE PROJECTS

- Projects are notifiable to HSE if they will involve
  - more than 30 days of construction workor
  - more than 500 person days of construction work
- Notes
  - Excludes days when no work is undertaken
  - Part days count. Holidays and weekend days only count if construction work takes place

## GENERAL MANAGEMENT DUTIES FOR ALL CONSTRUCTION PROJECTS

- General notes
  - Apply to duty holders under Regs
  - So far as is reasonably practicable
  - Concern health & safety issues
- Competence
  - Ensure appointee is competent and adequately resourced when appointing CDM Co-ordinator, Designer, Principal Contractor or Contractor
  - Only accept an appointment if you are competent
  - Only instruct competent workers
- Co-operation
  - Seek co-operation from and co-operate with other persons concerned with the project
  - Report any health and safety problem you are aware of
- Co-ordination
  - Co-ordinate activities with others
- Prevention
  - Take account of General Principles of Prevention when performing duties

## CLIENT DUTIES

- Notes
  - Regs do not apply to domestic clients (Regs do apply to domestic projects)
  - Client has fundamental influence on project
  - Clients may be Designers if specify materials or methods of working and will be Contractors if they directly manage or carry out construction work
- Duties all Construction Projects
  - Ensure competence and resources of all appointees, and appoint early enough
  - Ensure suitable management arrangements are in place throughout project to ensure construction work can be carried out safely and without risk to health; and that suitable welfare facilities provided from start and throughout construction.  
Note: This applies to all construction projects even when no CDM Co-ordinator (see ACoP Pages 11-12)
  - Allow sufficient time and resources for each stage of project
  - Provide pre-construction information to designers and contractors

## CLIENT DUTIES (cont)

- Ensure any proposed fixed workplace will comply with Workplace (Health Safety and Welfare) Regs 1992 in terms of design and materials
- Comply with General Management Duties of co-operation, co-ordination and prevention
- Additional Duties Notifiable Projects
  - Appoint CDM Co-ordinator as soon as practical after initial design work – before significant detail design work proceeds (before initial concept design)
  - Appoint Principal Contractor as soon as possible after client knows enough about project to select a suitable person
  - Ensure suitable Construction Phase (Health and Safety) Plan and Welfare Facilities before construction starts
  - Retain and provide access to Health and Safety File

## DESIGNER DUTIES

- Notes
  - Designer has broad definition, ie anyone doing design work or specification, including specifying/revising method of work, or purchasing materials where choice left open, heritage organisations who specify how work is to be done,
  - Designers are in unique position to reduce risks of construction work
  - Duties for all construction projects apply to design work which may be used in construction work in GB, including concept design, competitions, grant bids, design work in feasibility studies. Irrelevant whether funds and/or planning permission have been secured; level of risk, size of project, or domestic client also all irrelevant,
- Duties all Construction Projects
  - Ensure your own H&S competence and resourcing for H&S aspects of project
  - On appointment check client is aware of his duties
  - **During design eliminate hazards and reduce foreseeable risks to those involved in construction and future use (so far as reasonably practical and taking account of other design considerations)**
  - **Provide information about remaining significant risks**

## DESIGNER DUTIES (cont)

- Co-ordinate work with others to manage and control risks
- Comply with other relevant health and safety requirements, eg where structure to be used as workspace (including external works) comply with Workplace (Health Safety and Welfare) Regulations 1992
- Comply with General Management Duties particularly competence and resources (sub-consultants), co-operation, co-ordination and prevention
- Additional Duties Notifiable Projects
  - Check CDM Co-ordinator has been appointed and notified HSE and do not start design work (other than initial design work) unless CDM Co-ordinator appointed
  - Co-operate with CDM Co-ordinator, Principal Contractor, other Designers or Contractors, including providing information for Pre-construction Information and Health & Safety File

## ELIMINATE HAZARDS AND REDUCE RISKS DURING DESIGN

- Standard approach is hazard identification and risk assessment
- Hazard: has the potential to do harm, may cause several harmful events
- Risk: likelihood that harm will occur and severity of consequences
- Undertaken before start design and at every design stage, updated as design develops and changes, integrate into design and project planning processes.
- Don't do extensive risk assessments of risks which are routinely managed safely by contractors competent for the type of work, but still eliminate them if you can
- Record information and reasons for decisions (and who made decisions)
- HSE realise that design process should not be dominated by risk avoidance but balanced judgement of a range of considerations, eg finance, buildability, lifetime cost, aesthetics, environmental impact,
- Requirements of CDM are relative to risks and complexity of the project not to its size
- Requirements of CDM are to be undertaken as far as reasonably practical (time/money/trouble v risk)
- Take a holistic view

## HAZARD IDENTIFICATION

### A When does hazard occur?

- 1 Design/survey stages
- 2 Construction stage
- 3 Scheme in use
- 4 Maintenance and repairs
- 5 Ultimate future demolition

### B Who is put at risk?

- 1 Designers/consultants
- 2 Contractors/sub-contractors
- 3 Employer/client
- 4 Public/customers
- 5 Maintenance personnel
- 6 Tenant/owner/workers
- 7 Future Demolition contractor

## HAZARD IDENTIFICATION (cont)

### C What are the Hazards?

- 1 Consider each stage of the project to identify hazards, for example, go through the construction process and identify hazards at each step including materials, operations etc. i.e. site set up, demolition, excavation, earthworks etc;
- 2 Consider hazards associated with site and location etc, eg contamination, client requirements and/or limitations to contractors activities, access limitations, problems associated with adjacent uses etc;
- 3 Identify if there are specific hazards of the project which are unique or unusual;
- 4 Providing check lists of hazards is of limited value, they invariably don't include the unusual hazard(s) on your site which is(are) the most important one(s)!

## RISK ASSESSMENT

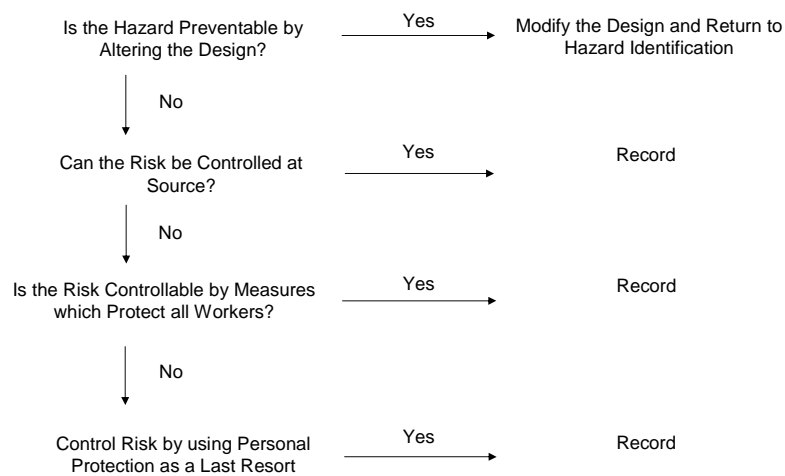
- 1 Assess **SEVERITY** of harm from hazard, including frequency or duration of exposure if appropriate:
  - Score 3, 2, or 1 (High, Medium, or Low)
- 2 Assess the **LIKELIHOOD** of harm and to the probable number of people affected:
  - Score 3, 2, or 1 (High, Medium, or Low)
- 3 **RISK = SEVERITY x LIKELIHOOD**
- 4 Record
- 5 **Eliminate? Avoid? Reduce?**
- 6 **Available control methods?**
- 7 **Reassess risk**
- 8 Record
- 9 **Check / redo** at every design stage
- 10 **Inform PC / contractor** before construction starts

## GENERAL PRINCIPLES OF PREVENTION

- Avoid risks
- Evaluate unavoidable risks
- Combat risks at source
- Adapt work to the individual, particularly in designing workplaces
- Adapt to technical progress
- Replace dangerous by non-dangerous or less dangerous
- Develop coherent overall prevention policy
- Give priority to collective protection over individual protection
- Give appropriate instructions to employees

See Management of Health and Safety at Work Regulations 1999

## HIERARCHY OF RISK CONTROL



**CDM DESIGNERS RISK ASSESSMENT: LANDSCAPE WORKS**

Project:	Imaging Fish Island	Ref:	290.PR73A
Stage:	Detail Design	Date:	27.06.01

**Work Element:** Installation of new precast retaining wall

**Hazard:**

- Soil collapse
- Machinery
- Crane
- Falling heavy concrete units

**Persons at risk:** Contractor / Public

**Eliminate hazard by design?:** No

**Reduce risk by design?: Yes**

- Reduce weight of concrete units
- Competent contractor and crane operator
- Contractor manage risk; adequate size crane for available location and weight to be lifted

**Remaining hazard?:** Yes

**Level of risk from remaining hazard?:** 4 (likelihood 2 x severity 2)

**Solutions considered not reasonably practicable:** Not having wall. Brick/block or in-situ concrete wall due to time constraints

**Information to be transferred to:**

**specification/ health and safety plan:**

- Specify crane location and size
- Competent crane operator
- Segregation of public, vehicles, workers etc from lifting operations
- Soil support / angle of repose etc
- Method statement

**health and safety file:**

- Wall drawings, calcs etc

**Other Notes:** Term Contractor to be managed and supervised by LBTH. Element to be assessed further by LBTH & Wall supplier

**DESIGN RISK ASSESSMENT SHEET**

PROJECT: ARDINGLY COLLEGE, ARDINGLY, WEST SUSSEX  
 NEW BOARDING HOUSES  
 JOB No: 2112  
 SHEET No: 01

ACTIVITY	HAZARD
Deliveries and materials disposal	Injury to pupils and staff by delivery vehicles and during handling of materials and plant

RISK ASSESSMENT				
	SEVERITY	FATALITY, MAJOR INJURY OR ILLNESS, LONG TERM DISABILITY.	INJURY OR ILLNESS CAUSING SHORT TERM DISABILITY.	OTHER INJURY OR ILLNESS
PROBABILITY		HIGH	MEDIUM	LOW
CERTAIN OR NEAR CERTAIN TO OCCUR	H	SIX	FIVE	FOUR
REASONABLY LIKELY TO OCCUR	M	FIVE	<b>FOUR</b>	THREE
SELDOM OR NEVER OCCURS	L	FOUR	THREE	TWO

**PRINCIPLE OF PROTECTION**

Risk only during construction.

Supervise all delivery vehicles coming onto and leaving the site exercising extreme care, particularly at start and finish of school and lunchtimes. Clearly sign the works at the entrance and incorporate protection to all pedestrians.

Manage the pedestrian crossing point to ensure safe passage of pupils travelling between the surrounding teaching and sports facilities.

METHOD STATEMENT REQUIRED: YES

## HAZARD REGISTER / H&S RISK REGISTER

- Records risk assessments by all consultants on a form recording the risk reduction process throughout design stages. Form showing the residual risks, how they have been reduced and the assumptions about how they will be managed by the contractors is passed on to Principal Contractor. Ideal on large projects
- Form normally A4 landscape or A3 landscape giving details of project, consultants, client, principal contractor etc at the top and typically includes columns:
  - Reference
  - Hazard / risk assessor
  - Activity / element of work / material etc
  - Significant hazard / hazardous or unusual activity
  - Pre action risk assessment rating (high/medium/low – red/amber/green – 3/2/1)
  - Design stage action now and future
  - Post action risk assessment
  - Control measures required / assumed and person responsible for control measure
  - Comments
  - Risk owner
  - Status
  - Post construction residual risk

## OTHER USEFUL(?) TOOLS

- The whole risk assessment process is iterative, needs to start before start design and continue as part of design; should become intuitive to eliminate hazards and reduce remaining risks
- HSE suggest (and some CDMC insist) the residual hazards/risks should go on the drawing(s) where the Principal Contractor and other contractors/workers cannot avoid seeing them and should include the hazard and what the designers have done to enable it to be managed effectively. [Good or bad idea? Is it illustrative information (drawings) or descriptive information (specification)? Who is responsible for conveying information to workers? (not designers) Will it be updated on drawings if PC changes control method?]
- There are other useful tools but everyone needs to fit into office systems, project team systems etc:
- 3 Step Method (involves the whole project team):
  - 1: identify hazards **before** design starts and continue during design process
  - 2: eliminate and avoid hazards, and reduce remaining risks by design and/or planning as an **integral** part of the process
  - 3: communicate any significant residual risks to Principal Contractor (or contractor if no PC) **before** start of construction

## OTHER USEFUL(?) TOOLS (cont)

- ERIC: Eradicate, Reduce, Inform, Control.
- TANU: Residual Risk Rating: used mostly when assessing risk before undertaking work (rather than at design stage)
  - T: trivial residual risk
  - A: adequately controlled (moderate risk)
  - N: not adequately controlled (substantially intolerable risk)
  - U: undecided (further assessment required)

## CONTRACTORS DUTIES

- Notes
  - Includes all contractors, sub-contractors, utilities, specialists, self-employed, ...
- Duties all Construction Projects
  - Check clients are aware of their duties
  - Plan, manage and monitor own work and that of workers
  - Comply with General Principles of Prevention
  - Ensure any contractor he appoints is informed of the minimum time they will have to plan and prepare before starting work on site
  - Check they and all their appointees and workers are competent and adequately resourced
  - Train own employees
  - Provide information to workers under their control which the workers need to work safely
  - Ensure any design work they do complies with Designers CDM duties
  - Co-operate with others and co-ordinate their work with others working on the project
  - Consult workers on Health & Safety issues
  - Comply with specific requirements in Part 4 (Duties Relating to Health and Safety on Construction Sites) of the CDM Regs

## CONTRACTORS DUTIES (cont)

- Ensure adequate welfare facilities for their workers
- Secure site before commencing work
- Obtain specialist advice where necessary when planning high risk work (eg from structural engineer when planning structural alterations)
- Additional Duties Notifiable Projects
  - Do not carry out construction work until know names of CDM Co-ordinator, Principal Contractor, have access to relevant parts of Construction Phase (H&S) Plan, the project has been Notified to HSE
  - Co-operate with Principal Contractor in planning and managing work, including site rules and reasonable directions
  - Co-operate with Principal Contractor, CDM Co-ordinator and others working on site, or adjacent sites
  - Advise Principal Contractor of risks to others from their work
  - Provide Principal Contractor with details of any contractor he appoints to carry out work
  - Inform Principal Contractor of any problems with the Construction Phase (H&S) Plan, comply with the Plan
  - Provide Principal Contractor with details of reportable accidents, diseases and dangerous occurrences
  - Provide Principal Contractor promptly with information relevant to the Health and Safety File

## WORKERS DUTIES

- Notes
  - Includes all those that work in the construction industry, employees and self employed
- Duties all Construction Projects
  - Look after and ensure your own health and safety
  - Co-operate with others, co-ordinate work with others to ensure the health and safety of others affected by your work
  - Ensure you only do work you are competent to do
  - Report risks
  - Follow site health and safety rules and procedures

### **CDM CO-ORDINATOR DUTIES (Notifiable projects only)**

- Notes
  - Key project advisor to client on construction health and safety risk management
  - Early appointment crucial for effective planning and management, as soon as is practical after initial design work
  - Involvement during construction stage continues, to ensure designers co-operate with each other and designs meet the Regs (design revisions, contractors designs etc)
- Duties
  - Advise / assist client with his/her duties, particularly concerning: appointing competent designers and contractors; ensuring adequate arrangements for managing the project; suitability of initial Construction Phase (H&S) Plan and welfare arrangements
  - Ensure suitable arrangements made and implemented to co-ordinate health & safety measures during planning and preparation for construction, including facilitating co-operation and co-ordination between dutyholders and application of General Principles of Prevention; eg facilitate good communication between client, designers and contractors

### **CDM CO-ORDINATOR DUTIES (cont)**

- Take all reasonable steps to identify and collect Pre-construction Information and provide it to designers and contractors, advise client if significant gaps in information need filling
- Notify HSE of project
- Take all reasonable steps to ensure designers comply with their duties
- Take all reasonable steps to ensure co-operation (concerning design or design changes) between designers and principal contractor during construction phase
- Comply with General Management Duties, competence, co-operation, co-ordination, and prevention
- Co-operate with others involved with project and Liaise with Principal Contractor concerning information needed to prepare Construction Phase (H&S) Plan, ongoing design, contents of Health & Safety File
- Prepare/update Health and Safety File and pass it to client

### **THE PRINCIPAL CONTRACTOR'S DUTIES (Notifiable projects only)**

- Before starting work be satisfied that client is aware of his/her duties, CDM Co-ordinator appointed and HSE notified
- Ensure own competence for the project
- Plan, manage and monitor construction phase in liaison with contractors to ensure work carried out without risks to H&S, facilitate application of General Principles of Prevention
- Ensure every contractor is informed of the minimum time they will have to plan and prepare before starting work on site
- Ensure all contractors are provided with information about the project needed for them to plan and do their work safely and without risk to health and safety of any person
- Prepare initial Construction Phase (Health and Safety) Plan before work commences, and develop and implement it, including preparing and enforcing site rules
- Give Contractors relevant parts of the Health & Safety Plan and reasonable directions as necessary

### **THE PRINCIPAL CONTRACTOR'S DUTIES (cont)**

- Ensure suitable welfare facilities are provided from the start and maintained throughout construction phase
- Check all their appointees are competent and adequately resourced
- Ensure all workers have site inductions and any further training and information needed for the work, and display the project notification on site
- Ensure safe working and co-ordination and co-operation between contractors
- Consult with the workers about H&S matters, facilitate effective cooperation between workers and monitor, provide information to workers
- Liaise with CDM Co-ordinator concerning ongoing design
- Secure the site
- Provide CDM Co-ordinator promptly with information relevant to the Health and Safety File and ensure Contractors provide their information
- Comply with General Management Duties, competence, co-operation, co-ordination, and prevention

## PRE-CONSTRUCTION INFORMATION

- Notes
  - Previously the pre-tender Health and Safety Plan, but now required for **all** projects
  - Prepared by the design team / CDM Co-ordinator
  - Provides information to tenderers and those planning construction work and to assist PC to develop the Construction Phase (Health and Safety) Plan
  - Normally include information in specification (Preliminaries) and where relevant on drawings
  - Separate document may be relevant for high risk projects, to highlight major risks
  - Only include topics relevant to project
  - Level of detail proportionate to project's risks (not to size of project)
- Topics (See ACoP Appendix 2)
  - Description of project
  - Clients considerations and management requirements
  - Environmental restrictions and existing on site risks
  - Significant design and construction hazards
  - The Health and Safety File requirements
- ACoP (Managing Health and Safety in Construction, CDM Regs 2007, Approved Code of Practice – available from HSE [www.hse.gov.uk](http://www.hse.gov.uk))

## CONSTRUCTION PHASE (HEALTH AND SAFETY) PLAN

- Notes
  - Prepared by Principal Contractor and only required for notifiable projects
  - Sets out how Health and Safety will be managed during construction
  - Only include topics relevant to project
  - Level of detail proportionate to project's risks
  - Client duty to ensure construction does not start until suitable Construction Phase (Health and Safety) Plan has been prepared and suitable welfare facilities present from the start
- Topics (see ACoP Appendix 3)
  - Description of project
  - Management of the works
  - Arrangements for controlling specific site risks
  - The Health and Safety File
- ACoP (Managing Health and Safety in Construction, CDM Regs 2007, Approved Code of Practice – available from HSE [www.hse.gov.uk](http://www.hse.gov.uk))

## HEALTH AND SAFETY FILE

- Notes
  - Prepared by CDM Co-ordinator and only required for notifiable projects
  - Provides information to enable future maintenance, construction, alteration, demolition to be done safely
  - Scope, structure, format agreed between client and CDM Co-ordinator at start of project
- Contents (see ACoP pages 61 – 64)
  - Brief description of work carried out
  - Residual hazards
  - Structural principles
  - Hazardous materials
  - Information on removal/dismantling of plant/equipment
  - H&S information on maintenance / cleaning equipment provided
  - Locations / marking of services
  - As-built drawings / information on structure, plant and equipment

## COMPETENCE

- Health and Safety Competence Generally
  - Competence assessments proportionate to risks, size and complexity of project
  - Competence involves knowledge from training and experience appropriate to role and risks
  - Competence involves ongoing process of Continued Professional Development
  - All duty-holders engaged on project must ensure that those they appoint are competent for role
  - Ensure ones own competence for role
  - Criteria for assessments agreed by HSE and Construction Industry. See Pages 45-51 and Appendix 4 of ACoP (Managing Health and Safety in Construction, CDM Regs 2007, Approved Code of Practice – available from HSE [www.hse.gov.uk](http://www.hse.gov.uk))
- Competence assessment of organisations
  - Stage 1: Assess it's organisation and arrangements for health and safety. Are they sufficient to undertake the project safely and without risk to health?
  - Stage 2: Assess it's experience and track record. Is it capable of doing the work and appreciate and manage the risks? Does it recognise its limitations and how to overcome them?

## COMPETENCE (cont)

- Competence assessment of individuals
  - Stage 1: Assess individual's task knowledge. Is it sufficient to undertake the project safely and without risk to health?
  - Stage 2: Assess individual's experience and track record. Is he/she capable of doing the work and appreciate and manage the risks? Does he/she recognise his/her limitations and how to overcome them?
- Designers Competence
  - Company general information: H&S Policy, arrangements to put policy into effect, H&S Advisor, arrangements for training and information dissemination, arrangements to monitor audit review and involve employees, accident reporting, sub-consulting procedures (eg assessing competence)
  - Evidence of how you perform your duties under CDM, eg ensuring hazard elimination and remaining risk reduction including examples, coordination and cooperation both internal and external, managing design changes
  - Company experience and individual's experience in the type of work

## COMPETENCE (cont)

- Individual's membership of relevant professional institution, qualifications and CPD record
- Individual's basic understanding of general risks in construction industry – CSCS card
- Individual CDM Co-ordinator's Competence
  - Need good interpersonal skills to undertake role successfully
  - Sound understanding required of the design process, importance of co-ordination in the design process, ability to identify information duty holders require to do their work safely, as well as a sound understanding of health and safety in construction; relevant to project construction, use, maintenance and demolition
  - Small projects with no special risks: ACoP suggests an appropriate health and safety qualification (eg NEBOSH construction certificate) and experience; Registration on CDM Co-ordinators Register (administered by ICS) or APS or Health and Safety Register (administered by ICE) confirms adequate knowledge and experience
  - Larger more complex projects or ones with high or unusual risks: ACoP suggests a company is more appropriate than an individual and Appendix 5 of ACoP includes additional criteria for assessment of competence of CDM Coordinators for such projects

## USEFUL DOCUMENTS

- CDM Regulations 2007: included in ACoP
- ACoP (Managing Health and Safety in Construction, CDM Regs 2007, Approved Code of Practice) **free** at <http://www.hse.gov.uk/pubns/priced/l144.pdf>
- Industry Guidance documents on CDM 2007 from Construction Skills ([www.cskills.org](http://www.cskills.org)) **free** downloads:
  - Clients
  - CDM Coordinators
  - Contractors
  - Designers
  - Principal Contractor
  - Workers
  - + Annexes
- Construction Industry Council CDM 2007 Construction Work Sector Guidance for Designers: A Gilbertson: CIRIA 2007: £75

## LANDSCAPE CONSTRUCTION WORKS

- Landscape works are on the borderline of the application of the Regulations and determining whether the Regulations apply or not, or the extent to which they apply, is often not simple.
- The JCLI advice given in JCLI Practice Notes Nos 8 and 9 is based on the Regulations, the ACoP and written advice from HSE
- The Regulations apply to “construction work” as defined in the Regs.
- HSE have advised that “construction work” as defined in the Regulations includes earthworks, all hard landscape works, installation of pipes and pipelines, demolition, dismantling, maintenance of “construction works” and preparation for such works (including site clearance and excavation)
- The ACoP states that ‘tree planting and general horticultural work’ is not “construction work”. However demolition, dismantling and site clearance of “construction work” are “construction work” even when undertaken in preparation for ‘tree planting and general horticultural work’.

### LANDSCAPE CONSTRUCTION WORKS (cont)

- HSE have advised that 'tree planting and general horticultural work' includes topsoiling, grading, amelioration, planting, grassing, agricultural fencing, tree work, soft landscape maintenance and associated preparation for such works (including excavation and site clearance of elements which are not "construction work")
- Therefore CDM does not apply to these soft landscape works because they are not "construction work".
- CDM never applies to these soft landscape works even when the work is part of a larger construction project.
- These soft landscape works also do not count towards the criteria for notification of a project, ie the 30 days or 500 person days of construction work
- However if CDM does not apply the HSW Act and other H&S Regs apply, eg Management of Health & Safety Regs.
- Topsoiling is not construction but earthworks is. The borderline between the two is unclear but topsoiling work on a small scale is unlikely to be considered as earthworks

### LANDSCAPE CONSTRUCTION WORKS (cont)

- HSE have advised that the CDM Regulations only make explicit what is implicit in the HSW Act
- This means that it is advisable for clients, contractors and designers to comply with Part 2 (General Management Duties applying to all Construction Projects) and Part 4 (Duties relating to Health and Safety on Construction Sites) of the CDM Regs even for work which is not "construction work". HSE have agreed that this is good general practice
- However, HSE did not agree to this being stated in JCLI Practice Notes because it is not a legal requirement, businesses that do only horticultural (soft landscape) work need not be aware of CDM, and it would increase burdens on small firms
- I believe it is both desirable and good practice for contractors and designers to comply with Parts 2 and 4 of the CDM Regs regardless of whether the work is "construction work" or not

## LANDSCAPE MAINTENANCE WORKS

- The 2007 ACoP advises that "construction work" excludes 'tree planting and general horticultural work' and therefore the Regs do not apply to the maintenance of such work. The maintenance of hard landscape (paving, fencing, walls) drainage, building, etc, is "construction work" as defined in the Regulations
- The Regulations do not apply to a landscape maintenance contract which only includes the maintenance (and the installation) of soft landscape. The Regulations do apply to landscape maintenance contracts which include the maintenance of hard landscape or drainage or buildings
- The Regulations are project based (not contract based)
- The current interpretation is that the Regulations do not apply to a maintenance contract as a whole but that items of "construction work" or maintenance of "construction work" included in a landscape maintenance contract (e.g. repairing footpaths, painting the tractor shed, clearing out drainage system) should be considered as 'projects' in themselves for the purposes of the Regulations. These elements will normally be so small that they will not be notifiable. If an element is notifiable then all of the Regulations will apply to that element

## LANDSCAPE MAINTENANCE WORKS (cont)

- Under the 1994 CDM Regulations the small project provision (less than 5 persons on site at any one time for less than 30 days) meant that only designers had duties for maintenance contracts when elements of maintenance of "construction work" were below this criteria. However, the small project provision has been removed from the 2007 Regs and hence Part 2 (General Management Duties applying to all Construction Projects) and Part 4 (Duties relating to Health and Safety on Construction Sites) of the Regulations will apply to maintenance of "construction work" even when it is non-notifiable. Hence clients, contractors and all workers, as well as designers, have duties under the CDM Regs 2007 for maintenance of, for example, hard landscape
- The person(s) preparing a specification, tender documents, schedules etc. for a maintenance contract is a "designer" as defined in the Regulations.

### **LANDSCAPE MAINTENANCE WORKS (cont)**

- A construction project should not be incorporated into a maintenance contract and the elements of construction work divided up to avoid all the CDM Regs applying – all the Regs will apply. Additionally the JCLI Landscape Maintenance Contract is not appropriate for construction work (other than small elements) because there is no provision for start or completion dates, liquidated damages, insurance of the works, rectification period or retention
- However, regardless of whether the Regulations apply or not, the HSW Act and other H&S Regulations will apply. For example, the Control of Pesticide Regulations 1986, the Control of Substance Hazardous to Health (COSHH) Regulations 1999 and the Management of Health and Safety at Work Regulations 1999.

### **LANDSCAPE CONSTRUCTION AND MAINTENANCE WORKS**

- In some circumstances when another contractor (or contractors) who is carrying out "construction work" as defined in the Regulations is using the same areas as the landscape or maintenance contractor (or the same access), the landscape or maintenance contractor may come under the control for the purposes of health and safety of a Principal Contractor appointed for the "construction work". In this case the landscape or maintenance contractor must comply with the Regulations. Wherever possible the landscape/maintenance contractor should be advised in the tender documents of any particular situation where this may occur. Additionally, the "designers" responsible for preparing the tender documents for the "construction work" should minimise the conflicts with other contractors (e.g. landscape and/or maintenance contractors) by the segregation of sites, accesses, etc. Also in similar project circumstances the "designer" for the landscape or maintenance contract may have to comply with the CDM Regs and the requirements of a CDM Co-ordinator appointed for a different project.

### **IN CONCLUSION – THINGS TO REMEMBER**

1. The requirements of CDM are proportionate to the risks and complexity of the project not its size.
2. CDM is generally project related not contract related.
3. The purpose of CDM is to integrate health and safety considerations in the design process and coordinate management of health and safety from inception to completion (and beyond).
4. Using competent contractors means the only really important risks are from the unusual non-standard circumstances of a particular project.
5. Make health and safety part of the design process not a paper exercise at the end of the design process.
6. HSE realise that the design process should not be dominated by risk avoidance but involve a balanced judgement of a range of considerations.
7. Record decisions, risk assessments etc.
8. The requirements of CDM are to be undertaken as far as reasonably practical.