IMPROVING SITE SAFETY – ENFORCEMENT OF THE CDM REGULATIONS

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The development of legislation that seeks to change the safety culture on construction sites is described. The content of the Construction (Design and Management) Regulations 1994 is briefly described along with the changes that the CDM Regulations have introduced to architectural and construction industry practice. The enforcement of the CDM Regulations by the Health and Safety Executive is analysed. While the industry is not being unreasonably persecuted and has been given time to adapt to the requirements of the regulations, clients are now being prosecuted if they have failed to appoint a planning supervisor or principal contractor.

Keywords: human resources, health and safety, CDM regulation

INTRODUCTION

There has been no shortage of legislation to improve the health and safety of workers and those who may be affected adversely by their activities. The industrial revolution, steam power and the rapid growth of towns gave rise to an act in 1833 “to regulate the labour of children and young persons in the mills and factories of the United Kingdom” (HSE, 1980). This resulted from a commission of enquiry into employment conditions in textile factories and enabled King William to appoint persons to be inspectors of factories. Each inspector was paid £1000 a year and provided with a horse for transport. There are now approximately 1300 appointed inspectors within the Health and Safety Executive responsible for all industries.

In 1937 a Factories Act acknowledged the particular hazards of building and civil engineering and the Building (Safety, Health and Welfare) Regulations were introduced in 1948. These regulations were in turn superseded by four sets of Construction Regulations, published in 1961 and 1966. Three of these have recently been consolidated. (D o E, 1996) All this legislation focussed on the tasks being undertaken by operatives on site and the management of sites. The requirements include the provision of appropriate temporary access and support to the works in progress and the provision by the contractor of a minimum standard of welfare facilities.

The Health and Safety at Work etc. Act 1974 additionally introduced the concept of safe systems of work. More recently there has been a general recognition that management must adopt a pro-active approach. This, along with the widely held view that all injuries and occupational illness can be prevented (Anderson 1992), resulted in legislation requiring all employers in all industries, manufacturing and services, as well as construction, to establish systems for the management of health and safety (HSC, 1992).

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The problem of ensuring a safe working environment for construction workers is world-wide, not merely a British one. The causes to the particular problems of health and safety in the construction industry include:

temporary duration of work sites

ever-changing location of the work place on the work site as the building grows

the need for provision and removal of temporary support for the works and access for the workforce

the changing skill requirements as work progresses, high labour turnover

the small size of most firms, use of subcontractors and the self employed

seasonal and casual employment, use of migrant and unskilled labour

exposure to many different and often innovatory materials

effects of the weather, sun, rain, wind, snow and wide temperature variation

fatigue caused both by manual physical exertion and long working hours

welfare problems of construction workers

competitive tendering leading to under-pricing and omission of safety precautions and welfare facilities by the unscrupulous

The continuously changing composition of the teams of workers on construction sites had led to difficulties in identifying the person or firm in control of a site. This, combined with the realisation that many of the accidents occurring on sites are the consequence of decisions taken during the design and pre-mobilisation stages of a project, led to the view that management responsibility must originate with the client for a construction project. Furthermore designers must accept responsibility for ensuring that the hazards associated with the implementation of their designs are minimised (Commission of the European Community 1993). The proponents also argued that careful planning leads to improved product quality and that the value of lost production and expenditure of management time and effort in dealing with accidents can outweigh the cost of taking care to avoid accidents.

The European Community decided to improve the working conditions of building site workers throughout the community by means of a directive, the Temporary and Mobile Sites Directive. This directive has been incorporated in the domestic law of all the member states of the union and in the UK by the Construction (Design and Management) Regulations 1994, after much lobbying by vested interests (Bishop 1994). The president of the RIBA argued that architects were inadequately trained and consequently uninsured for the duties imposed. Nonetheless some architectural practices now offer clients their services as planning supervisors and they now form the largest single group in membership of the Association of Planning Supervisors. This current paper presents an analysis of the enforcement of the CDM Regulations by the Health and Safety Executive.

OVERVIEW OF THE CDM REGULATIONS

The statutory framework imposed makes all parties involved in the conception, design, planning, construction, maintenance, repair and demolition of a building accountable for health and safety management. The regulations apply to construction work that is notifiable, i.e. lasts more than 30 days or will involve more than 500

person days of work. They also apply when 5 people or more work on site at any one time. They do not apply to very minor construction work carried out in occupied premises such as domestic residences, offices, shops and restaurants.

For the first time duties are imposed on the client and the designers. Responsibility for the health and safety of the site work force and the general public no longer rests only on the contractors. The CDM regulations require that time be spent identifying potential problems at the preparatory and design stages. Two new documents, the health and safety plan and the health and safety file, now have to be created. The client must ensure that all information about a site or existing premises that may affect the health or safety of those constructing a building, or subsequently altering the completed building, is made available to designers and contractors. The client must ensure that those engaged to work on a project are competent to carry out their work and will allocate enough resource for effective health and safety management of the project. The client is required to appoint a planning supervisor, a new role created by the regulations, and a principal contractor so that a single, readily identifiable, firm has overall responsibility for the site.

The designer's role is to ensure, as far as is reasonably practicable, that the design eliminates or minimises the health and safety risks to all those who build, repair, maintain or demolish the building when it is no longer needed. Careful design should eliminate risk by considering alternatives for particular situations, avoid the use of hazardous materials, and ensure that guidance is available for safe assembly. Designers must inform clients of their duties under the regulations and provide the planning supervisor with as much information as possible for inclusion in the health and safety plan and file.

The role of planning supervisor is that of a health and safety co-ordinator with responsibilities for the co-ordination of designers, as well as for ensuring that the principal contractor allocates sufficient resources to ensure health and safety on site. The planning supervisor's duties include ensuring that health and safety plans are prepared as the design is developed and giving advice to the client, designers and contractors on these matters. Further duties include notification of the project to the HSE.

The plan is normally developed as the design develops and as much information as is available included in a pre-tender health and safety plan made available to contractors prior to a contract being awarded. The pretender health and safety plan ought to be one of the factors influencing the main contractor's price. The principal contractor further develops it prior to work commencing on site. The plan is revised and updated as subcontractors are appointed and further design information becomes available.

Duties are placed on both the principal contractor and all other contractors, both employers and the self employed to co-operate .

On completion of a project the planning supervisor must ensure that a health and safety file provides a record of the building as built so that anyone undertaking maintenance, repair, or alterations can consult it and can easily assess the risks associated with proposed actions.

These duties extend those already in existence. Detailed guidance on the implementation of the regulations is available in Codes of Practice, (for example HSC1995), HSE information sheets (for example HSE 1995) and various books (for example Joyce, 1995).

Table 1: Content of the Construction (Design and Management) Regulations 1994

Regulation	Content
Citation and commencement	
Interpretation	
Application of regulations	
Clients and agents of clients	
Requirements on developer	
Appointment of planning supervisor and principal contractor	
Notification of project	
Competence of planning supervisor, designer and contractors	
Provision for health and safety	
Start of construction phase	
Client to ensure information is available	
Client to ensure health and safety file is available for inspection	
Requirements on designer	
Requirements on planning supervisor	
Requirements relating to health and safety plan	
Requirements and powers of principal contractor	
Information and training	
Advice from, and views of, persons at work	
Requirements and prohibitions on contractors	
Extension outside Great Britain	
Exclusion of civil liability	
Enforcement	
Transitional provisions	
Repeals, revocations and modifications	

SUCCESSFUL PROSECUTIONS FOR BREACHES OF THE CDM REGULATIONS BY THE HSE

The HSE policy immediately after the introduction of the regulations in April 1995 was to provide information and advice accompanied by warnings and improvement notices and it appears that no cases were taken to court for breaches of the CDM in that year. However, the following year prosecutions were included in published statistics (HSC 1997). Table 2 presents an extract of the result of hearings from the data relating to all regulations for which HSE has a responsibility for enforcement ranked by number of prosecutions brought. Of the 43 regulations listed in the published Health and Safety Statistics only those for which 10 or more prosecutions were made and completed are included in Table 2. When an accident has occurred or an extremely hazardous situation discovered of such severity that the issue of an improvement or prohibition notice would be inadequate it is common practice to lay alternative charges for breaches of a number of regulations, for instance, regulations 6, 7 and 14 of the CDM Regulations. If the defendant is found guilty of the first charge the HSE will often withdraw the other charges. Thus the withdrawal of charges should be seen as an act of generosity to save the Courts' time and effort rather than a sign of weakness or incompetence on the part of HSE Inspectors. The HSE loses very few cases.

The CDM Regulations rank only 12th in the list. Information was laid before the courts in 15 cases and withdrawn in 6. Of the 9 cases considered 1 was dismissed while 8 convictions were achieved. The average penalty per conviction was £2,900. More prosecutions were brought for breaches of the longer established Construction (Working Places) Regulations than for breaches of the CDM Regulations. Clearly the CDM Regulations did not receive disproportionate attention, if anything, the HSE was reluctant to prosecute to enforce them until the industry and its clients became fully aware of the content and implications of the regulations. Penalties were generally of

the same modest average four figure size as for most convictions for breaches of health and safety regulations.

Table 2: Proceeding Instituted by HSE under Specific Regulations 1996/97

	Informations laid	Convictions	Informations withdrawn	Informations dismissed	Average penalty (£)
Gas Safety (Installations and Use) Regs 1994 and amendment Regulations 1996	106	88	18	--	722
Provisions and Use of Work Equipment Regs 1992	61	54	4	3	2172
Management of Health and Safety Regs 1992 and amendment Regulations 1994	40	28	5	7	1909
Electricity at Work Regs 1989	36	28	5	3	4288
Control of Asbestos at Work Regs 1987 and amendment Regs 1992	33	31	2	--	956
Construction (Working Places) Regs 1966	33	31	2	--	1777
Reporting of Injuries, Diseases and Dangerous Occurrences Regs 1985	32	30	1	1	877
Power Presses Regulations 1965	29	24	4	1	969
Gas Safety (Installation and Use) Regs 1984	24	19	3	2	422
Reporting of Injuries, Diseases and Dangerous Occurrences Regs 1995	21	15	6	-	464
Construction (Health, Safety and Welfare) Regs 1996	17	14	1	2	1190
Construction (Design and Management) Regs 1994	15	8	6	1	2900
Ionising Radiations Regs 1985	14	13	1	--	1885
Construction (Health and Welfare) Regs 1996	12	12	--	--	1184
Construction (General Provisions) Regs 1961	10	7	3	--	5100

(Source Health and Safety Commission 1997 Table A1.27)

Statistics of enforcement actions by the HSE are published every year and some of the results of hearings completed in 1997/98 (the most recent year for which statistics are available) (HSC 1998) are presented in table 3. Again, only those for which 10 or more prosecutions were made and completed are included. The number of prosecutions for breaches of the CDM Regulations trebled to 48 in contrast to the 15 in the previous year and has risen to sixth place in the table. The author initially attributed this increase to a change in policy by the HSE, namely that as awareness of the CDM Regulations has grown the HSE has felt confident to made greater use of the regulations without being considered to be unreasonable. He has been advised that this is not the case. Investigation into accidents and situations reported to the HSE, sometimes anonymously by the general public, revealed breaches for which the CDM Regulations are the appropriate legislation for prosecution. On average the penalties imposed by the courts are less severe at £1480 in contrast to £2900 the previous year. As contracts designed, let or started on site before 1995 are completed it is inevitable that new projects will be let under various forms of standard contract that have been revised to make mention of the CDM Regulations, for example the JCT Agreement for Minor Building Works amendment MW 9, and the revised preambles to the National Building Specification.

It is of note that the consolidated Construction (Health, Safety and Welfare) Regulations 1996 have moved to third place in the table from eleventh. The regulations they consolidate had no, or fewer than 10, prosecutions during the 12 month period. The source tables, however, show a substantial increase in the total number of prosecutions under all Construction Regulations to 233 in 1997/8 from 91 the previous year. Other statistics in the source document (HSC 1998) show a reduction in the total number of informations laid under all regulations applicable to all industries from a peak in 1989/90. This suggests that construction, with its high fatality rate and incidence of reportable accidents, is receiving greater attention from HSE.

Table 3: Proceeding Instituted by HSE under Specific Regulations 1997/98

	Informations laid	Convictions	Informations withdrawn	Informations dismissed	Average penalty (£)
Gas Safety (Installations and Use) Regs 1994	186	135	39	5	445
Provisions and Use of Work Equipment Regs 1992	171	151	15	2	1879
Construction (Health, Safety and Welfare) Regs 1996	146	123	18	4	1761
Management of Health and Safety Regs 1992 and amendment Regs 1994	85	57	20	7	3349
Control of Asbestos at Work Regs 1987 and amendment Regs 1992	53	45	7	1	1612
Construction (Design and Management) Regs 1994	48	34	12	1	1480
Gas Safety (Installation and Use) Regs 1984	37	25	10	1	750
Control of Substances Hazardous to Health Regs 1994	32	17	10	5	1421
Electricity at Work Regs 1989	27	22	5	--	2200
Workplace (Health, Safety and Welfare) Regs 1992	18	16	2	--	2450
Construction (Working Plans) Regs 1966	16	14	1	1	3715
Construction (Lifting Operations) Regs 1961	15	9	6	--	4634
Reporting of Injuries, Diseases and Dangerous occurrences Regs 1995	15	12	2	1	1159
Reporting of Injuries, Diseases and Dangerous occurrences Regs 1985	14	13	1	--	1085
Power Presses Regulations 1965	10	9	1	--	1667

(Source Health and Safety Commission 1998 Table A1.27)

Reports of successful prosecutions for breaches of health and safety regulations frequently appear in newspapers, TV news bulletins and in the specialist technical press. This publicity serves to remind viewers and readers of the dangers facing people at work in general and of construction workers in particular. Apart from references on leaflets promoting short specialist training courses on the CDM regulations, few, if any, reports of specific enforcement of the CDM regulations have appeared. As no literature could be located on prosecutions the head office of the HSE in Bootle was contacted.

A most helpful letter (McGlown 1998) included a table with text summaries of CDM prosecutions (01/04/96 to 31/03/97). She has supplied a further set for 1997/98 and from April to the end of December 98 (McGlown 1999). Table 4 shows the role of persons and organisations successfully prosecuted abstracted from these tables.

Table 4: Role of persons and organisations successfully prosecuted by HSE for breaches of CDM Regulations

Role of Persons	1996/97		1997/98		1998/99 to 31/12	
Prosecuted	No	%	No	%	No	%
Clients	13	69	14	54	12	40
Planning Supervisors	1	5	5	19	2	7
Designers	3	16	2	8	1	3
Contractors	2	10	5	19	15	50
Total	19	100	26	100	30	100

Some of the cases resulted in successful prosecution of a firm undertaking more than one role on the building project. The comments relating to Cytec Industries of Bradford being fined £3,500 on 11/12/97 are:

> *"Injured person, fell approximately 4m from unprotected edge whilst installing dust extraction equipment. Injured person worked for subcontractor. Company acting as Planning Supervisor, Planning Contractor and Client, Failure to adequately control risks. Prosecution of subcontractor also apposite"*

Though the numbers are small and any trend identified must be treated with caution it appears that while the number of clients prosecuted in each of the periods is similar they only formed the majority of cases in the first two years. The author initially thought that there was a deliberate policy to target clients so that resultant publicity would make all clients realise that they have been given new responsibilities for the health and safety of all who may be affected by the building works they commission. They might, through ignorance, fail to perform duties of which they are unaware. Clients could be regarded as easy targets. He has been informed that this was not the case, accident investigations discovered that no planning supervisor or principal contractor had been appointed so only the clients could be held responsible.

Some well-known organisations feature. The National Grid Co Plc., West Thurrock Substation was fined £2,000 following a crane overturning on a demolition site for not appointing either a principal contractor or planning supervisor (breaching regulation 6). Drawings of the structure, including the weights were available but were not given to the contractor. Rhone Poulenc Chemicals were fined £10,000 following the collapse of redundant plant and a works crane during dismantling (breaching regulation 6). Surrey County Council was fined £500 for poor systems of control and ignoring previous advice concerning pipework insulated in asbestos. Privatisation has removed Crown immunity from defence installations. Consequently Building and Property (Defence) Ltd., NATO Site, Maidstone, were fined £2,000 for not producing an adequate health and safety plan when two cranes failed during the dismantling of a radar dish (breaching regulation 15). British Steel Seamless Tubes, Waddensbrook

Works, Wolverhampton was fined £2,000 for not providing information to an inexperienced in-house closure team appointed to oversee initial demolition. The companies' documentation was out of date (breaching regulation 11). No precautions were taken while removing over 100 metres of pipe work lagged with Amosite.

Other less well-known clients such as Burleigh Properties Ltd. of Cambourne have been fined £500 for not appointing a planning supervisor or preparing a health and safety plan until a prohibition notice was served on a contractor working with land contaminated with arsenic. When a planning supervisor was finally appointed not all information was given to him. Park Lane Properties of Whitworth St. Manchester were fined £3,000 for failing to appoint a planning supervisor while Shop and Store Developments Ltd. of Milford Haven were fined only £300 for the same offence. Honey Grove Properties Ltd. employed an unlicensed demolition subcontractor to remove amosite lagging from a disused boiler house. Work not in accordance with ACOP leading to employee exposure and spread/contamination. Fined £2000 (breaching regulation 8).

One client company, MFS Communications Ltd., was fined for multiple offences of failing to implement the CDM regulations. A contractor struck an 11kv underground cable and the client subsequently fined £2,000 (breaching regulation 6) and fined £1000 for an offence against regulation 10.

It is surprising that any individual or firm offering the service of a planning supervisor should not comply with the CDM Regulations, yet one such firm, Integrated Building Consultancy Ltd of Rushall Pewsey, Wiltshire, was fined £3000 on 20/8/97 for breaches of Regulations 7 and 15.

> *"Failure by Planning Supervisor to notify site and produce health and safety plan. Inspection of badly managed site revealed no compliance with CDM. Uncontrolled health and safety risks and no welfare. Planning*

supervisor notified site and produced plan only after demolition phase completed, thereby allowing demolition behind back of HSE. Mitigation that Health and Safety had been considered verbally"

Table 5: Regulations under which prosecutions have been brought by HSE for breaches of CDM Regulations.

Regulations	Content	No of Prosecutions		
		1996/97	1997/8	1998/99
6	Appointment of Planning Supervisor and principal contractor	6	5	5
7	Notification of project	2	2	2
8	Competence of planning supervisors, designers and contractors	1		4
9	Provision for health and safety			1
10	Start of construction phase	4	6	11
11	Client to ensure information is available	2	6	
13	Requirements on designers	2	3	3
15	Requirements relating to the health and safety plan	4	8	7
16	Requirements on and powers of principal contractors	1	2	3
19	Requirements and prohibitions on contractors		1	1

0f the designers successfully prosecuted W S Atkins was fined for the uncontrolled stripping of pipework insulated with asbestos in a school. This was the result of poor planning and documentation. Elland Steel Structures breached regulation 15 for producing a method statement which was seriously deficient and did not indicate which purlins needed to be attached to a 49 m square steel frame which collapsed while being erected. The collapse of a two storey residential dwelling during underpinning resulted in a Mr. Leeds of Brightling being fined £3,000 for breaches of regulation 13. The designer failed to give adequate consideration to the structural stability of the building when preparing the underpinning scheme and failed to give adequate information as to how the work should have been completed. The designers of an industrial racking system, Apex Storage Systems, Blackburn, were fined £4,000 following the death of a contractor. They were charged with failing to give adequate regard to risks associated with construction and not giving adequate regard to reducing the risk of persons falling. Architectural practices can take comfort in that none had been prosecuted to date. No architects or surveyors offering clients their services as planning supervisor in addition to their prime function have been prosecuted to date.

The number of contractors prosecuted for breaches of the CDM Regulations has risen over the three periods for which data is available. Typically, A G Builders Ltd, Pewsey, Wiltshire was fined £3000 on 20/08/97 for breaching regulation 15 and £500 for breaching regulation 16.

CONCLUSIONS

The major intention of the regulations is to ensure that risks are assessed, reduced and managed from project conception to completion. Client and designers now have duties and responsibilities. No longer is the contractor left with sole responsibility for health and safety.

Clients, particularly large clients, comprised the majority of prosecutions in the first two periods. Clients are the first link in the construction chain and those prosecuted must have directly contracted for the work to be performed, for otherwise their professional advisors would have also been prosecuted. The majority of these proceedings relate to the client's most important duty: the appointment of a planning supervisor (breaching regulation 6). The other major thrust of prosecutions relates to client awareness of the materials used in the fabric of buildings they are having

demolished, particularly asbestos (breaching regulation 11) and their responsibility to provide information. Clients must now examine the fabric of their buildings and consult any existing drawings and other records before commissioning demolition work.

It is surprising that a company acting as planning supervisor had neglected their duties and relied on a defence that health and safety matters had been considered verbally when one of the main responsibilities of the role is to prepare a health and safety plan!

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