Safety and Health Legislation in Europe and United States : a comparison

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ABSTRACT: The high incidence rate of accidents and fatalities on construction sites around the world continues to confirm that the construction industry remains a highly hazardous industry. It is disconcerting to note that virtually all of the hazards prevalent in construction can be identified, reduced or at a minimum, totally eliminated. This untenable situation has resulted in safety and health regulations around the world being subjected to major revisions during the last 3 decades. This paper examines developments in safety and health legislation in Europe and compares them with the Occupational Safety and Health Act, which was enacted in 1970 in the United States, although its focus has and is changing. The reality of the current situation is that the European focus is ever increasing to performance-based safety, whereas OSHA, while becoming more performance-based is clearly a prescriptive regulation. Whether prescriptive, performance-based or some form of hybrid, construction safety and health to actually be effective requires the active participation of the entire construction team.

Keywords : OSHA, Council Directive 92/57/EEC, C(DM)R 1994

1. INTRODUCTION

The high incidence rate of accidents and fatalities on construction sites around the world continues to confirm that the construction industry remains a highly hazardous industry. It consistently ranks as being among those industrial sectors with the highest injury and fatality rates. It is disconcerting to note that virtually all of the hazards prevalent in construction can be identified, reduced or at a minimum, totally eliminated (Smallwood and Haupt, 1998). Statistics from Europe indicate that the construction industry, employing 7,5% of the industrial workforce, accounts for 15% of all accidents and injuries, and is responsible for 30% of all fatalities (Berger, 1998). In the United States where the industry employs in the region of 5% of the entire industrial workforce, it has generally accounted for nearly 20% of all industrial worker deaths (Hinze, 1997, Centre to Protect Workers Rights, 1995).

This untenable situation has resulted in safety and health regulations around the world being subjected to major revisions during the last 3 decades. In some cases, new legislative and regulatory approaches have replaced existing regulations and legislation. The emphasis of these new pieces of legislation has been on individuals and their duties. Additionally, they represent significant departures from previous prescriptive approaches. They have been based on principles designed specifically to increase awareness of the potential hazards associated with safety and health issues. They demonstrate a new approach and commitment to the management of construction projects. The Construction (Design and Management) Regulations (CDMR) of 1994 in the United Kingdom and the Council Directive 92/57/EEC of 24 June 1992 in Europe are examples of these new approaches. In the United States the construction industry and, more specifically, the Occupational Safety and Health Act (OSHA) of 1970 have not been left unaffected by these recent initiatives.

This paper examines the developments in safety and health legislation in Europe and compares them with OSHA in the United States. To accomplish this end, a thorough study was made considering, among other issues, the functionality of both systems.

2. ISO STANDARDS

The success of the ISO 9000 standards, adopted world wide by many organisations as a requirement for trade, has driven ISO to develop other organisational standards (Dias, 1999). There is little evidence, however, in the literature of the use of ISO 9000 as a quality management system in occupational safety and health in construction despite some of the features of the standard which would seem to be appropriate (Coble and Haupt, 1999). ISO 9000 or other similar systems are not appropriate for implementation in safety and health for international contracting. They may be a basis or model to follow, but a new performance-based safety standard needs to be implemented for international construction (Coble and Haupt 1999).

3. THE CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS (CDMR) OF 1994

The CDMR were introduced in the United Kingdom in March 1995 in compliance with the European Union Council Directive 92/57/EEC in 1992, in terms of which all European Union member states were to implement the terms of the directive into national legislation by 1994. The regulations were, additionally, a bold response to the study conducted by the Health and Safety Executive (HSE) which recorded that during the period 1981 through 1985, 739 people were killed in the construction sector (Munro, 1996). They were consequently designed to provide a legislative framework aimed at achieving co-operation and co-ordination in the drive to improve construction safety and health on construction sites.

The regulations promote the teamwork approach during the design and construction life of construction projects which has been advocated by Sir Michael Latham in his 1994 report, *Constructing the Team.* They place new responsibilities and duties on clients, designers and contractors. The CDMR carry a criminal sanction of up to 2 years imprisonment and unlimited fines for non-compliance with their provisions. The primary objective of the CDMR is to ensure proper consideration of safety and health issues throughout each phase of the construction process from project inception through to the eventual demise of the building by demolition (Tyler and Pope, 1999). The CDMR have been described as a management solution. They involve co-ordination in a notoriously fragmented industry as well as the integration of the major participants in the construction process.

Major distinguishing characteristics of this legislation include :

- a departure from traditionally prescriptive or "deemed-to-comply" or "command-and-control" approaches to performance based approaches;
- consideration of safety and health issues not just during the construction life of the project, but from project inception through to the final demise of the facility by demolition, including the operation, utilisation and maintenance periods;
- the redistribution of responsibility for construction worker safety away from the contractor, who was previously solely responsible, to include all participants in the construction process from the client through to the end-user;
- the introduction of a new participant to the construction process, the planning supervisor, with responsibility to co-ordinate the other participants and documents to facilitate better management of safety and health on construction projects;
- mandatory safety and health plans as instruments facilitating exchange and communication of safety and health issues between all participants in the construction process, on all "notifiable" projects where the construction phase is longer than 30 days or will involve more than 500 person days, and where there are more than 5 persons carrying out construction work at any one time; and

- mandatory compilation of a safety and health file by the planning supervisor to be handed over to the client upon completion of the facility.

The CDMR acknowledge the roles of each participant in construction. For example, whereas designers were not previously extensively involved in giving advice about systematic consideration of health and safety issues, they are now required to avoid foreseeable risks as a duty for all construction projects.

4. THE COUNCIL DIRECTIVE 92/57/EEC OF 24 JUNE 1992

A major overhaul of European safety and health regulations was long overdue. To accomplish this change the Council of European Communities committed itself to ensuring greater protection of the safety and health of construction workers through the adoption of minimum requirements for encouraging improvements in working environments on construction sites. The Council Directive 92/57/EEC of 24 June 1992 was designed to guarantee the safety and health of workers on construction sites in the European Community wherever building or civil engineering works were carried out.

The Commission recognised that more than 50% of occupational accidents on construction sites were attributable to unsatisfactory architectural and/or organisational options, or poor planning of the works at the project preparation stage. Moreover, the Commission recognised that large numbers of accidents resulted from inadequate co-ordination especially where various undertakings worked simultaneously or in succession at the same construction site. This represented a major paradigm shift. Previously all responsibility for safety and health on construction sites was attributed solely to contractors.

Distinguishing features of the Directive include :

- the performance based nature of the provisions of the Directive;
- ensuring that safety and health issues are taken into account through all phases of the construction process, extending to the operation, utilisation and maintenance periods, and the final demise of the facility through demolition;
- the redistribution of responsibility for construction worker safety away from the contractor, who was previously solely responsible, to include all participants in the construction process from the client through to the end-user;
- the introduction of the project supervisor who is responsible, while acting for the client, for all applicable general safety and health requirements during the stages of design and project preparation, including ensuring that the safety and health plans and files are accordingly adjusted;
- the appointment of one or more safety and health co-ordinators by the client or the project supervisor, for either or both the project preparations and project execution stages, their duties in terms of each stage being different;
- the compilation of mandatory safety and health plans by the client or project supervisor before actual work commences on site;
- the giving of a prior notice, which must be updated periodically and displayed on the construction site, submitted to the authorities responsible for safety and health at work on all construction sites where the work is scheduled to last longer than 30 working days, and on which more than 20 workers are employed at the same time, or on which the amount of work to be carried out is scheduled to be more than 500 person-days;
- the mandatory preparation of a file appropriate to the characteristics of the project containing relevant safety and health information to be taken into account during any subsequent works; and
- the fact that the entire Directive, together with all annexures, is contained in a total of 17 pages.

5. THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) OF 1970

OSHA applies specifically to employers, which in the case of construction are contractors. Consequently, contractors have been held solely responsible for safety and health on construction sites in the United States. The OSHA standards have historically been formulated on the basis of traditional prescriptive and "deemed-to-comply" approaches. Contractors are required to comply rigidly with the provisions of the standards. Non-compliance is censured in the form of punitive fines. These fines are on the rise. In an article in the June 1999 edition of a well known and respected publication, Florida Workers' Comp Advisor, OSHA's new position is summed up. In the report entitled, "OSHA calls in the cavalry on construction fatalities", OSHA calls this enforcement campaign, Construction Accident Reduction Emphasis (CARE).

The OSHA regulations cannot, and do not, cover every conceivable work condition or situation. In cases where they do not, contractors have to apply to OSHA to obtain permission to deviate from the applicable standard. Historically, the requests for these variances have been relatively few, and the number of variances actually granted tends to be even smaller (Hinze, 1997).

The OSHA standards for construction consist of over 200 sections, and more than 1 000 subsections, ranging from short paragraphs to several pages. The sections are grouped into 26 subparts (A through Z).

In the United States, the effort to change the culture of the current regulatory system enjoys support at the highest level of government. It has been recognised that developing tailored and cost-effective standards, as well as altering or eliminating existing rules which are obsolete or no longer make sense, have to be based on sound science and good information. There is increasing support for a move away from the traditional focus on strict compliance with procedural requirements and heavy fines for non-compliance in favour of a system based on results or outcomes. At the same time, compliance assistance will be offered when the requirements are not met. To this end, OSHA for example, has been pilot testing a system which will give both construction managers and workers the primary responsibility for ensuring safety and health at their individual work sites.

For its part, OSHA, in a May, 1995 report, entitled "The New OSHA," has committed itself to promoting common sense regulations, encouraging partnerships, and eliminating red tape, while at the same time ensuring greater safety and healthier working conditions for American workers (Office of Management and Budget 1996). In order to achieve these improvements, OSHA is :

- offering incentives to employers with good safety and health programmes;
- either eliminating or amending outdated and confusing standards;
- improving consultation with stakeholders in the construction industry; and
- establishing performance measures that evaluate programmes based on safety and health results and outcomes.

The August 1996 revision of the OSHA standard protecting approximately 2,3 million workers on scaffolds in the construction industry is an example of a performance based approach. The standard establishes performance-based criteria, where possible, to protect employees from scaffold-related hazards such as falls, falling objects, structural stability, electrocution, and overloading (Office of Management and Budget 1996). Employers are allowed greater flexibility in the use of fall protection systems to protect workers on scaffolds. This flexibility extends to workers erecting and dismantling scaffolds. The training of workers using scaffolds is also strengthened. Further, the standard specifies when retraining is required. According to estimates, the new standard will prevent 4 500 injuries and 50 deaths annually, saving construction employers at least $90 million in annual costs resulting from lost workdays due to scaffold-related injuries.

Additionally, recent OSHA regulation modifications have given contractors considerably more flexibility in how they accomplish a safe work place (DOL, 1997).

6. CONCLUSIONS

The value of both the CDMR and Council Directive 92/57/EEC lie in the requirements of all participants in the construction process to make safety and health a mandatory priority in a structured way. They are performance based, permitting flexibility in dealing with safety and health issues and the relationships, which are common for construction projects. Additionally, they provide a framework within which all the activities of all participants in the construction process, are co-ordinated and managed in an effort to ensure the safety of those involved with, or affected by, construction. This is a positive initiative.

While OSHA is still largely prescriptive in nature, there are signs of increasing acceptance of a paradigm shift towards a performance based approach. The recent regulation modifications have given contractors considerably more flexibility in how they accomplish a safe work place. There is a steadily growing recognition that new approaches are necessary to arrest the incidence of accidents and fatalities on construction sites around the United States. These approaches will need to include the redistribution of the responsibility for safety and health in construction, away from contractors to include all participants in the construction process, while at the same time ensuring that safety becomes a priority from project inception through the operations, utilisation and maintenance periods to the demise of the facility by demolition.

Since construction safety and health is everyone's business - clients, designers, contractors, suppliers, manufacturers and workers - initiatives which promote their involvement throughout the entire construction process and beyond, should be lauded and supported wherever they are introduced, regardless of whether they be in the United Kingdom, Europe or the United States.

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