

# How Effective is Health & Safety Legislation in the Construction Industry?



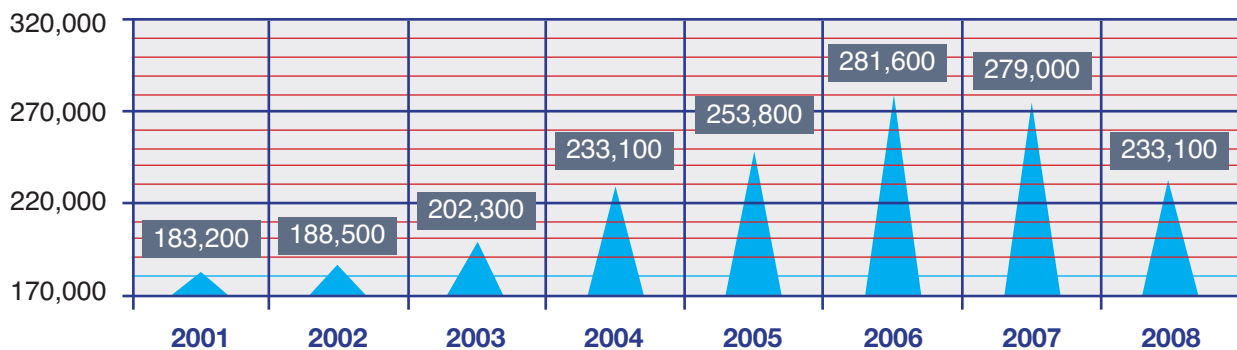
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Sarah-Louise was one of 30 students who graduated from the IAVI/DIT BSc (Hons) Property Studies course in February. She was the winner of the Anthony O'Neill Memorial Award for the student with the highest marks on the BSc (Hons) in property studies. This article, based on her dissertation, examines the poor safety record of the construction industry.

## INTRODUCTION

The construction industry has been recognised as one of the most hazardous industries in which to work<sup>1</sup>. Its safety record, when compared to other industries is poor. Accidents on construction sites are still a major problem. Between 2007 and 2008, fatalities in the Irish construction industry increased from 5.0 to 5.6 per 100,000 personnel<sup>2</sup>. In 2008, 1,178 construction related injuries were reported to the Health and Safety Authority (HSA). This made up 15.4% of total reported injuries that year. This was 482 fewer than in 2007 but there was also a notable reduction in number employed in the sector.

**Figure 1:** Number of employed in construction sector 2001-2008



Source: CSO, April 2009.

Between 1998 and 2008 the construction industry grew from 7% to approximately 10% of the Irish workforce. On average, 20 fatal accidents occurred on construction sites in Ireland each year.<sup>3</sup>

The aim of the study on which this article is based was to determine how the new legislation affected fatality and accident rates and the safety culture on construction sites. The study included questionnaires and interviews. It also examined HSA and CSO reported incident rates.

The top five important issues found to be associated with site safety were: (1) management talk on safety; (2) provision of safety booklets; (3) provision of safety equipment; (4) providing a safe working environment and (5) appointing a trained safety representative on site.

The questionnaires highlighted that insufficient training for workers and lack of supervision, were perceived as causes of accidents on sites. Surprisingly, a key finding of the questionnaire survey was that lack of planning was deemed, by people working in the industry, to be one of the highest causes of construction site related accidents.

## BACKGROUND TO CURRENT LEGISLATION

Some key EU accident statistics are in Table 1:

**Table 1:** Headline work related accidents in the EU.

- **Every three and a half minutes, somebody in the EU dies from work-related causes.**
- **Every year, 142, 400 people in the EU die from occupational diseases and 8,900 from work-related accidents**
- **Up to a third of these 150,000 fatalities each year can be attributed to hazardous substances at work in the EU, including 21,000 to asbestos.**

*Source: The European Agency for Safety and Health at Work.*

The HSA has reported that, while most fatal accidents occur at site level, actions taken at management level may have most impact on safety behaviour. It states that “only those participants with sufficient authority and resources can ensure that safety is integral to the project process.”<sup>3</sup>

## EUROPEAN LEGISLATION

Under EU directives, employers have responsibilities for the safety and health of their employees. Directive 89/391 provides the general framework for health and safety management and risk assessment. Employers are required to assess risks and take practical measures to protect the safety and health of their employees, keep accident records, provide information and training, consult employees and co-operate and co-ordinate measures with contractors.

The Construction Sites Directive (92/57/EEC) was published by the European Union in 1992. Since then, member states have introduced legislation to improve safety and health standards at temporary or mobile construction sites.

The Directive sets minimum safety and health requirements at temporary or mobile construction sites. It emphasizes the coordination required by the various parties before and during construction. It is summarised in Table 2.

**Table 2:** EU Directive 92/57/EEC minimum safety and health requirements

- **clients/project supervisors have to appoint one or more safety and health coordinators**
- **clients/project supervisors have to ensure that a safety and health plan is prepared before the construction phase starts**
- **clients/project supervisors have to take safety and health into account when designing the project**
- **during the construction phase coordinators have to ensure that risks are adequately managed and that the health and safety plan is taken into account**
- **co-operation between employers in matters of safety and health has to be implemented and procedures monitored.**

*Source: European Agency for Health and Safety at Work<sup>6</sup>*

Eighteen years on, attempts are being made to assess the impact of the Directive across Europe. Contributors to the discussion offer different perspectives. Some, e.g. the European Federation of Building and Woodworkers report that, “accident levels on construction sites have remained extremely high”. Others maintain that, “safety and health in construction is now an issue that most stakeholders are aware of and take care of”.

## IRISH LEGISLATION

The main legislation providing for the health and safety of people in the workplace is the Safety, Health and Welfare at Work Act 2005. This Act consolidates and updates the provisions of the Safety, Health and Welfare Act 1989. It applies to all employers, employees (including fixed-term and temporary employees) and self-employed people in their workplaces. The Act sets out the rights and obligations of both employers and employees and provides for substantial fines and penalties for breaches of the health and safety legislation.

Almost all the specific health and safety laws which apply generally to all employments are contained in the Safety, Health and Welfare at Work (General Application) Regulations 2007 which came into effect on 1<sup>st</sup> November 2007. These Regulations replace the 1993 General Application Regulations and other secondary legislation in the area of health and safety at work.

Previous to the 2005 Act, The Safety, Health and Welfare at Work (Construction) Regulations 1995 represented the first phase in Ireland's transposition of the Construction Sites Directive. These were then superseded by the Safety, Health and Welfare at Work (Construction) Regulations 2001.

The 1995 regulations 'aimed at improving the management and co-ordination of health and safety on construction sites'<sup>3</sup> The Regulations increased the obligation on those who are involved in the planning stages of a construction project e.g. clients, designers, project supervisors. These are the actors who can ensure that "account is taken of health and safety at every stage of the project, from initial concept through to design, construction and eventual maintenance"<sup>3</sup>

Given the fragmented nature of the industry, it is often problematic to assign responsibility for errors. For example, a failure on the part of a designer may not manifest itself until years later during building maintenance. The Regulations bring into focus the roles and responsibilities of all actors involved in a project. This clarifies accountability and subsequent liability. The clients for a building project and the designer also have responsibilities.

The HSE<sup>4</sup> notes that clients can vary "in the level of expertise they bring to bear in specifying their requirements, selecting advisors and managing the construction process. Some clients have a continuous building programme; others build only once in a lifetime". Client influence can significantly affect "the priority given to safety over the whole project life-cycle, from tendering and resourcing through to site management and incident investigation". Legislation aims to standardise client input so that safety concerns are considered from the inception of the project. The duties of a client, as of 6<sup>th</sup> June, 1995 are set out in Table 3.

**Table3:** Client obligations under Irish Law

- **Appoint a competent Project Supervisor for the Design Stage (PSDS)**
- **Appoint a competent Project Supervisor for the Construction Stage (PSCS)**
- **Terminate or renew these appointments as necessary**
- **Keep available the Safety File for inspection**
- **Allow a sufficient timeframe for the safe completion of the work**

## CONSTRUCTION RELATED FATALITIES

### CONSTRUCTION FATALITY RATES IN EUROPE

In 2006 the European average for construction related fatalities per 100,000 personnel was 2.5. The rate for Ireland was 2.2. Although below the European average, Ireland still has a higher incidence than six other countries.

### CONSTRUCTION FATALITY RATES IN IRELAND

The statistics relating to accidents occurring in the construction industry indicate that the accident rate is still high and it shows that safety in the industry can still be improved.

The human suffering caused by accidents and ill health is upsetting to all concerned. Its extent is impossible to calculate. There are also considerable financial losses. Despite the reduction in the absolute number of incidents reported to the HSA in the 2001 to 2008 period, the *rate* of reportable injuries has increased. However, there was a slight reduction for the same period in the rate of 4+ days illnesses from 13.4 to 12.2 per 1,000 employees. This is against the trend which has seen the rate of illness increase steadily since 2004.

Although there has been a long term improvement of the safety performance in the construction sector, the injury rate is still 50% higher than that of all industries<sup>5</sup>. The risk of a fatality in the construction industry is five times more likely than in a manufacturing-based industry<sup>6</sup>.

As part of the work on which this article is based, people in the construction industry were asked to reply to a questionnaire. A total of 12 construction industry personnel responded to the questionnaire survey out of 14 questionnaires sent out. The two that did not respond did not respond because of confidentiality concerns. The responses are summarised in Table 4.

**Table 4:** Response rates (%) of a sample of construction workers (%)

**Question:** "Which of the following practices are implemented in your company to improve safety?"

	Response Rate (%)	
	Yes	No
Incentive programme (bonus payments for safe working periods, additional days off etc)	17%	83%
Daily safety meetings	0%	100%
Pre-construction meetings	92%	8%
Post-construction meetings	67%	33%
Specific training	67%	33%
Toolbox talks	75%	25%
Periodic safety audits by outside consultants	50%	50%

People in the construction industry were also asked about safety meetings and practices.

They responded that daily safety meetings were never implemented in the company in which they worked. A daily meeting can provide an opportunity for continuous safety review. It can create greater safety awareness through specific focused safety reminders. Daily safety meetings allow opportunities to give information on new safety rules and regulations. They can be tied in with 'toolbox talks' and only need to take a few minutes. A daily safety message may be as brief as a one line safety reminder.

**Table 5:** Interviewees opinion of main causes of construction site related accidents

Undefined construction specifications	3%
Unforeseen soil conditions	5%
Weather conditions	5%
Inadequate equipment	7%
Language difficulties	7%
Short timescale for project completion	8%
Lack of training for workers	9%
Inadequate enforcement of regulations	9%
Inadequate knowage of regulations	10%
Inexperience of workers	11%
Lack of correct planning	13%
Lack of supervision	13%

People in the construction industry were also asked if there were any other causes they believed were responsible for accidents on site. Their opinions on the main causes of construction site related accidents are shown in Table 5. The questionnaire requested information on the most recent safety training received by the respondents. Half said that they had not received training of any form for up to 5 years.

The analysis showed that the opinion of the interviewees on the importance of communication on safety in the company was unanimous. All 12 respondents agreed this was important. Of the suggested channels of communication provided in the questionnaire, one-to-one discussions and regular inspections were the most used channels of communication on safety issues. All 12 respondents believed that the channels for communication used on their current sites of work were effective.

When asked if they could suggest other means to improve safety on site, a number of suggestions were offered. These are shown in Table 6.

**Table 6:** Suggestions for improvement of on-site safety

- Safety DVD's shown monthly to all on site
- Additional site signage to be posted
- Promotion of responsibility and awareness
- Safety breach fines
- More input from builders at the design stage to ensure architects design buildings that can be constructed more safely
- More regular toolbox talks (scheduled rather than *ad hoc*)
- Improved mandatory site safety induction
- Improved supervision
- Additional mandatory training other than safe pass course
- More training for employees at affordable prices to employers

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**CONCLUSION**

The examination of statistics and legislation shows that the construction industry is still a dangerous place to work. The situation in Ireland is better than some EU member states but worse than others. Construction sites could be safe. The introduction of legislation at both national and EU level has probably improved safety but more can be done.

The responses from interviewees indicated that safety statements and risk assessments are viewed as paper exercises that act not as a device to aid safety management but simply to satisfy legal obligations. The advisory role of the safety officials needs to be bolstered to ensure strength in their advice and decisions. However, operations managers' accountability should be made more transparent. Their decision must be followed by effective action when hazards and defects are identified on site.

The effectiveness of safety management activities should be routinely assessed and audited to improve their efficiency. The audits should include day-to-day management and monitoring from design stage to completion of construction.

It is evident that all levels of the construction industry need to foster a more determined attitude towards safety. It can be inferred from the questionnaire and interview data, that safety managers' have the opportunity to influence and enhance the sense of safety and the quality of the work environment.

The evidence suggests safety compliance inconsistencies allowing plenty of scope for improvement. Training for construction personnel seems to be inadequate, relying to a large degree on safe pass training programmes. ♦

**Figure 2:** Personnel fatality rates in the EU 2006 (EUROSTAT) HSA 2008

