ILO CONSTRUCTION OS&H

A free, comprehensive, international, digital training package in occupational safety and health for the construction industry

THEME SUMMARY 1: FUNDAMENTAL PRINCIPLES

(Photo by Fiona Murie, BWI)

Summary of content
1. Preface
2. 'Decent Work' and 'well-being'
3. Ethics and humanity
4. Corporate social responsibility
5. National policy
6. Need for a holistic culture and systems
7. Requires real commitment from all involved
8. Basic concepts of hazards and risks
9. The business case for OS&H and business decisions
10. Monitoring, reporting and reviewing performance
11. Appendix: Decent Work, SafeWork
12. Relevant elements of the Knowledge Base

1   PREFACE

" …… the promotion of the common welfare."

(from the Constitution of the International Labour Organisation (ILO))

"The Conference recognizes the solemn obligation of the International Labour Organization to further among the nations of the world programmes which will achieve …. adequate protection for the life and health of workers in all occupations"

(ILO Declaration of Philadelphia, May 1944)

The training programmes described in this set of documents, entitled **Construction OS&H,** have been produced by the ILO and Building and Woodworkers International (BWI), working in partnership. The principal authors were: Professor Richard Neale, Emeritus Professor of Construction Management, University of Glamorgan, Wales, UK; and Fiona Murie, Director, Occupational Health and Safety, and Construction Coordinator, BWI.

"For the BWI, the most effective way to ensure that workers' interests are protected in the work place is through legislation and regulation. In this connection, we work with the International Labour Organization (ILO) to lobby for the implementation of ILO standards and their respect in World Bank agreements."

(http://www.bwint.org)

This Theme Summary explains the 'Fundamental Principles' of effective occupational safety and health management, under the headings listed in the table above. It begins with a review of the ILO programmes 'Decent Work' and SafeWork', before progressing to a discussion on ethics and corporate social responsibility, leading into the relationship between these international policies and procedures and national polices. The need for a holistic acceptance of these policies and commitment by all involved is then advocated, followed by a brief introduction to the fundamental concepts of hazards and risk. A 'business case' for OS&H is then argued, and the Theme Summary concludes with an explanation of the need and the procedures for monitoring and improving OS&H performance.

The content is drawn from the Knowledge Base, and the relevant elements are given at the end of this document.

2 DECENT WORK AND 'WELL-BEING' AT WORK

"The primary goal of the ILO today is to promote opportunities for women and men to obtain decent and productive work, in conditions of freedom, equity, security and human dignity."

(Juan Somavia, ILO Director-General;
http://www.ilo.org/global/About_the_ILO/Mainpillars/WhatisDecentWork)

"This Report proposes a primary goal for the ILO in this period of global transition — securing decent work for women and men everywhere. It is the most widespread need, shared by people, families and communities in every society, and at all levels of development. Decent work is a global demand today, confronting political and business leadership worldwide. Much of our common future depends on how we meet this challenge."

("Decent Work", Report of the Director General, ILO 87th Session, June 1999.)

The International Labour Organisation's extensive programme entitled "Decent work for all" is based on the following statements:

"Work is central to people's well-being. In addition to providing income, work can pave the way for broader social and economic advancement, strengthening individuals, their families and communities. Such progress, however, hinges on work that is decent. Decent work sums up the aspirations of people in their working lives."

(ILO's vision of decent work http://www.ilo.org/global/About_the_ILO , downloaded 27 01 2009)

"At the level of the firm, the key social protection issue is occupational health and safety. Every year about 250 million workers suffer accidents in the course of their work, and over 300,000 are killed. Taking account of those who succumb to occupational diseases, the death toll is over 1 million people a year. Yet international concern with awareness of health and safety at work remains surprisingly modest, and action is limited. Many developing and transition countries have little public information on this subject and need to reinforce their capacity to design and implement effective policies and programmes. Even today, many new investment decisions continue to ignore safety, health and environmental considerations."

("Decent Work", Report of the Director General, ILO 87th Session, June 1999. P64.)

Decent Work has initiated the SafeWork programme:

**InFocus — SafeWork: Security and productivity
through safety and health at work**

Taking accidents and diseases together, the global estimate of work-related deaths amounts to at least 1 million per year. The SafeWork programme will aim to create worldwide awareness of the dimensions and consequences of work-related accidents, injuries and diseases. It will promote the goal of basic protection for all workers in conformity with international labour standards, and it will enhance the capacity of member States and industry to design and implement effective preventive and protective policies and programmes. This may include the strengthening of the labour inspectorate. The primary focus will be on hazardous occupations.

The programme's approach will be two-pronged. First, it will create alliances and partnerships by launching activities that ILO constituents, non-governmental organizations and human rights groups can use in advocacy campaigns and to press for vigorous action by governments. Second, it will support national action through an integrated programme of direct technical assistance. This will include developing management tools and monitoring and information services that will help prevent occupational accidents and diseases and protect both workers and the environment. Activities will include:

- a worldwide advocacy campaign;

- a global statistical programme;

- national programmes of action;

- training programmes; and

- technical meetings for the international exchange of information and experiences on workers' safety and health.

("Decent Work", Report of the Director General, ILO 87th Session, June 1999. P64.)

A statement on the SafeWork programme by the Director General of the ILO is given in the Appendix.

3 ETHICS AND HUMANITY

Ethically, the ILO's view of OS&H is quite clear:
- Safety and health is a human right
- Safety and health is a value
- Human damage is incalculable

(http://www.ilo.org/public/english/protection/safework/cis/oshworld/xvwc/congrep/sld002.htm)

The quotations below illustrate the human scale of the problem in this industry.

"In construction at least 108 thousand workers are killed on site every year, that figure represents 30 per cent of all fatal injuries. That is one person dying every five minutes because of bad, and illegal, working conditions. The construction industry has a deservedly notorious reputation as being dirty, difficult and dangerous.

Workers are killed, injured and made sick whilst carrying out routine jobs. The hazards are well known and so are the prevention measures. The overwhelming majority of "accidents" are absolutely predictable and preventable. They are caused by failure to manage risks, or by straightforward negligence on the part of the employer."

(BWI web site http://www.bwint.org/default.asp?Issue=OSH&Language=EN)

Ethical considerations are therefore fundamental to any consideration of OS&H, which revolves around the value placed on human life, and this varies dramatically throughout the world. It is often said that rates of death and injury are related to the stage of a nation's development; that is, poor countries lack the resources to protect their workers during the development phase, because the resources are just not available. Perhaps the victims of this point of view are seen to be sacrificing themselves for the good of their country.

This point of view provokes questions about the reasons for continued poor OS&H performance in the so-called 'advanced countries'. The article below shows a 9% decrease in fatalities in the United Kingdom during 2007/08. This is seen to be a good achievement. But there were still 72 fatalities in this period the UK, which has one of the most developed OS&H systems in the world. What could be the reasons for this?

10 NEW CIVIL ENGINEER 06.11.08 | www.nce.co.uk

NEWS

HEALTH & SAFETY

Construction industry fatalities fall by 9%

By Seán Flynn

Fatalities in construction fell by 9% from 79 to 72 in 07/08

09%

Fatalities in construction fell by 9% last year, but the rate of reported major injury remains the highest of any main industry group, Health and Safety Executive (HSE) statistics revealed last week.

There were 72 fatal injuries to workers in construction in 2007/08, seven fewer than the previous year.

Of these 72 fatalities, 54 were employees and 18 were self-employed, compared to 54 and 25 in 2006/07. Fatal injuries in construction nevertheless accounted for 31% of all fatal injuries at work 2007/08.

The rate of fatal injury to workers in construction decreased to 3.4 per 100 000 workers, from 3.8 per 100 000 workers in 2006/07. The rate of fatal injuries in construction had been falling until last year, when a spike of fatal injuries was blamed on non-English speakers being more vulnerable in construction.

An HSE spokesman said the number of deaths and injuries had been falling until last year.

(Courtesy of New Civil Engineer: www.nce.co.uk)

This problem is discussed in excellent general review of this issue is provided by an ILO report "Introductory report: Beyond death and injuries: The ILO's role in promoting safe and healthy jobs" (see Relevant Elements of the Knowledge base at the end of this document). An extract from this report is given below.

"The pace of global socioeconomic development over the past 50 years, together with scientific and technical progress, has brought about an unprecedented volume of research and knowledge concerning risk management in general and the control of public and workplace risks in particular. Moreover, the advent of computer, Internet and other electronic communication systems has made this knowledge easier to access globally.

Such knowledge has been translated into a massive compendium of international, regional and national regulatory frameworks, as well as technical standards, guidelines, training manuals and practical information covering all the different aspects of occupational safety and health (OSH) for all branches of economic activity.

In most countries, the social dialogue mechanisms necessary for addressing work-related issues including OSH have been progressively established at both national and enterprise levels. Legal and technical instruments, tools and other measures to prevent occupational accidents and diseases have been put in place in all countries, albeit at different levels of comprehensiveness, sophistication, implementation and enforcement capacity.

Yet, despite this formidable expenditure of effort and resources, a plateau seems to have been reached when it comes to achieving decent, safe and healthy working conditions in reality. The latest ILO estimates indicate that the global number of work-related fatal and non-fatal accidents and diseases does not seem to have changed significantly in the past 10 years. This discrepancy between the level of efforts and results has many reasons, many of them brought on by the globalization of the world's economies. A closer look at the statistics shows that, although industrialized countries have seen steady decreases in numbers of occupational accidents and diseases, this is not the case in countries currently experiencing rapid industrialization or those too poor to maintain effective national OSH systems, including proper enforcement of legislation."

> The text shown in highlight above states the fundamental problem that the **Construction OS&H** programmes have been designed to challenge.

In a very thorough book 'Ethics for the built environment' (see relevant elements of the Knowledge Base at the end of this document) Peter Fewings makes the case that the size of the construction firm has a major influence:
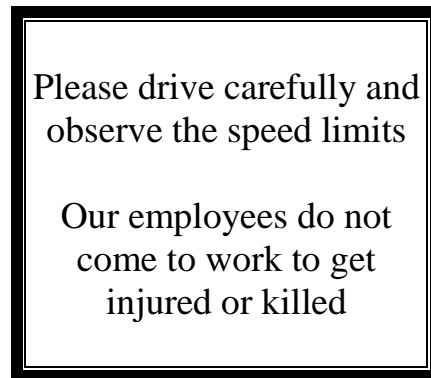
"Accident statistics in the UK have shown that more fatalities have occurred on small contractors' sites than on large contractors' sites …"

"It is generally considered that a smaller organisation cannot easily absorb the start-up costs of a health and safety regime and therefore is stuck with a more risky commercial choice .."

At the highest level of a company, the ethical culture and practices originate in an ethics policy. Fewings quotes the ILO as being a leader in this field and mentions also past United States' President Clinton's 'no sweat' campaign, "which was instrumental in signing up companies to a trendsetters' register for companies who were prepared to lead the way in ensuring better conditions of work and better health and safety in the sweat shops of some emerging economies". The ILO is quoted as reporting that a large majority of companies in the USA have ethical codes but fewer European companies have such codes.

Peter Fewings' book is highly recommended for further information on the topic of ethics in the built environment, and Chapter 6, "The ethics of construction quality, safety, health and welfare", is especially relevant. The title of this chapter demonstrates the contemporary managerial understanding of the terms 'quality' and 'Total Quality Management', attaching very comprehensive meanings and looking at the various elements of time, cost, quality, safety, welfare, physical and social environment as a complete system which links all those involved in the project. This is an understanding of 'quality' that is embraced wholeheartedly by **Construction OS&H**.

There are, nevertheless, some encouraging signs that some companies in the 'developed world' are adopting an ethical and humanitarian perspective. The road sign below was seen by one of the authors of these training programmes when driving through some major highway works in the United Kingdom. Signs such as this are unusual, but emphasise an increasingly ethical and humanitarian view of occupational safety and health.

> Please drive carefully and observe the speed limits
>
> Our employees do not come to work to get injured or killed

Another good example is taken from an advertisement by Murphy, a UK construction company:

**"Experts in construction
Experts in safety**

At Murphy, nothing comes higher on our list than safety. And to achieve such high safety standards, we make sure our workforce is full trained and ready for anything, whatever the conditions, whatever the project. The Health and safety of our employees is paramount"

This company has made its full OS&H policy document available on the Internet. For further in formation see relevant elements of the Knowledge Base at the end of this document.

Bovis Lend Lease has also established a clear policy for achieving high standards of OS&H but also general welfare. This international construction organisation makes a very clear commitment, as the followings example shows:

"Bovis Lend Lease will operate Incident & Injury Free and is committed to realising this wherever the Group has a presence. This philosophy reaches every part of the Group's operations and extends to clients, suppliers, subcontractors and other stakeholders.

Bovis Lend Lease will:
- *Invest in what it takes to achieve this vision.*
- *Empower its employees to demonstrate leadership in making this vision a reality.*
- *Proactively work with all stakeholders including clients, designers, contractors and the workforce to make this vision a reality, and remains prepared to walk away rather than compromise the Group's commitment to safety.*
- *Own and act on this vision. This requires a mindset intolerant of any injury or incident regardless of frequency or severity.*

Bovis Lend Lease believes:
- *That working Incident & Injury Free is a choice and a basic human right.*
- *Those who view Incident & Injury Free working as a given, and make this happen, will become leaders in the property industry.*

Bovis Lend Lease recognises:
- *That this vision is achievable if our employees and stakeholders are totally committed to it.*
- *That the commitment to being Incident & Injury Free requires individuals to take a personal stand and in doing so, demonstrate great courage and trust."*

(The ILO is grateful to Bovis Lend Lease for the use of this quotation. It is 209 words long, so has been used under the convention of 'Fair Use' which allows a maximum of 400 words to be used without seeking formal permission.)

For further in formation see 'Bovis Lend Lease web site' in the relevant elements of the Knowledge Base at the end of this document.

4   CORPORATE SOCIAL RESPONSIBILITY

Corporate Social Responsibility (CSR) is a concept and term that has become commonly used in recent years. The ILO defines it as:

"a way in which enterprises give consideration to the impact of their operations on society and affirm their principles and values both in their own internal methods and processes and in their interaction with other actors. CSR is a voluntary, enterprise-driven initiative and refers to activities that are considered to exceed compliance with the law."

(ILO Subcommittee on multinational enterprises, GB.295/MNE/2/1 Geneva, March 2006)

The above committee paper continues with an illustration of the complexity of this concept:

"There is considerable debate on CSR and on the role of enterprises in society. Some are concerned that the expectations of enterprise CSR initiatives extend well beyond what might be considered as the legitimate role of an enterprise in society: CSR cannot substitute for the role of government. While others might agree with the primacy given to the law and its implementation, they note that CSR should not be confused with what society considers as the social responsibilities of enterprises: CSR is a voluntary concept involving responsibilities unilaterally identified by enterprise management."
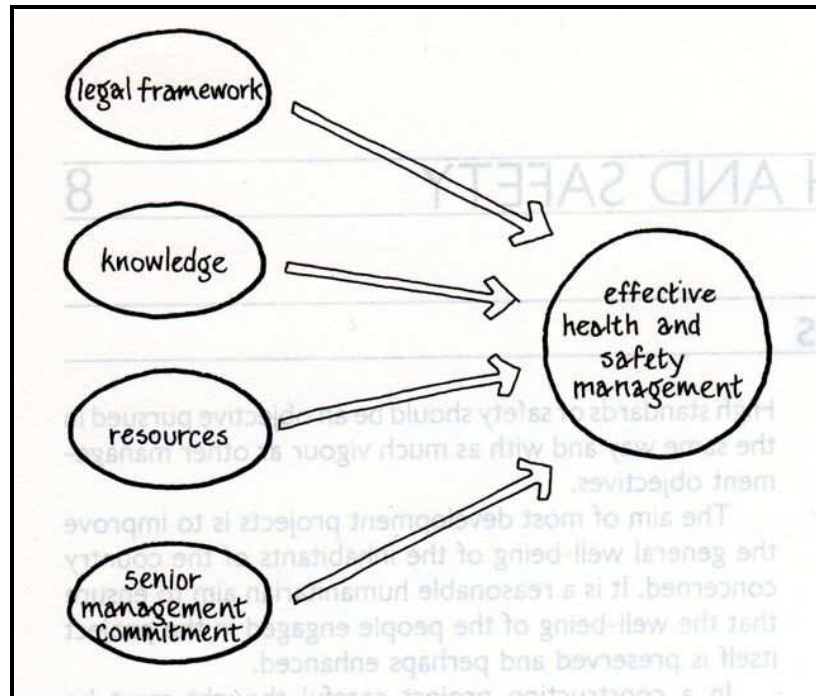
For a full discussion on this topic in the context of **Construction OS&H**, there is an excellent book by Mike Murray and Andrew Dainty, 'Corporate social responsibility and the construction industry'; details are given in the Knowledge Base (see below). A chapter on the application of CSR to OS&H, written by John Smallwood and Helen Lingard, is especially relevant, and the following quotation makes the ethical point that the scope of CSR should include the well-being of all employees:

"… all people and organisations should be conscious and mindful of the health and well-being of each other, and their workers respectively. The results of managerial actions have extended consequences. These consequences are often experienced by people who have no control over the actions that caused them and, therefore, there is an argument that these consequences should be considered when decisions are made. If decisions can hurt or harm people in ways that are outside their individual control, then the issue is a moral one, which requires ethical analysis."

(The ILO is grateful to Professors John Smallwood and Helen Lingard for the use of this quotation. It is 89 words long, so has been used under the convention of 'Fair Use' which allows a maximum of 400 words to be used without seeking formal permission.)

5   NATIONAL POLICY

In 1984 the ILO published a book entitled "Managing construction projects" (see Knowledge Base) which identified four essential "principal factors in effective health and safety management", as shown in the following diagram:

The need for a legal framework was described as follows:

> ## LEGAL FRAMEWORK
>
> Most countries have a legal framework to ensure some degree of occupational health and safety. This legal framework usually lays down basic requirements of good employment practice, such as a minimum age for the employment of children. There may, in addition, be specific technical requirements relating to construction: for example, restrictions on the use of blue asbestos in buildings because of its detrimental effects on human health; or a simple technical construction requirement that the top of a ladder must be secured.
>
> In some industrialised countries this legal framework has become extensive and detailed. In many developing countries it is rudimentary. Regardless of its level of sophistication and comprehensiveness, a legal framework can provide only a technical basis from which a coherent safety policy may be developed. Accidents and ill-health are not, as is so often believed, the result of straightforward technical failures; they result from a combination of social, organisational and technical problems.

The implementation and enforcement of comprehensive national policies and regulations is recognized as being a fundamental key to improvement. The ILO proposes a hierarchy of guidelines and policies, from the ILO's international guidelines, through nationally established regulatory bodies to produce national guidelines and regulations, through to tailored guidelines for specific organizations or groups. This hierarchical structure and process should result in effective OS&H management in organizations. This is shown diagrammatically below:
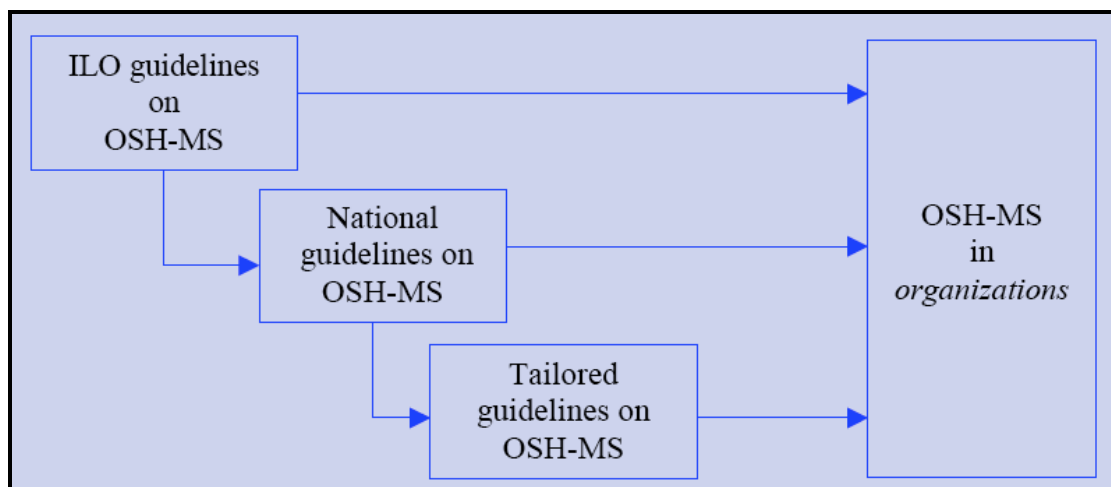
(From: Guidelines on occupational safety & health management systems, ILO-OSH 2001)

The ILO's recommendations for a national OS&H system are as follows:

ESSENTIAL ELEMENTS OF A NATIONAL OSH SYSTEM

- Legislation, and any other relevant OSH instruments;
- One or more authorities or bodies responsible for OSH;
- Regulatory compliance mechanisms, including systems of inspection;
- A national tripartite advisory mechanism addressing OSH issues;
- Arrangements to promote at the enterprise level, cooperation between employers and workers;
- OSH information and advisory services;
- Systems for the provision of OSH training;

- Occupational health services;
- Research on OSH;
- A mechanism for the collection and analysis of data on occupational injuries and diseases;
- Provisions for collaboration with relevant insurance or social security schemes covering occupational injuries and diseases; and
- Support mechanisms for a progressive improvement of OSH conditions in micro, small and medium-sized enterprises, and in the informal economy.

But, as the next two sections show, a legal framework cannot improve OS&H on its own; three other principal factors must also be applied.

6 NEED FOR A HOLISTIC CULTURE AND SYSTEMS

A construction project may be viewed as a matrix of time-based 'stages' as the project progresses from its inception to completion and commissioning, and at each of these stages a number of organizations and people are involved, each to a varying extent according to the activities in the stages. A simplified, general matrix, based on a traditional form of contract in which design and construction are separate activities, is shown below. The density of the shading in the boxes gives an indication of the amount of engagement of the different industry groups in the project at each stage.

Of course, this represents a simplification; for example in a design-and-build project the Procurement stage would precede the Design stage, and the amount of community engagement would depend on where the project is located. But the matrix does indicate how complex even quite small and straightforward projects can be, and how care must be taken to consider all those involved when designing and implementing an OS&H management system.

The real challenge is to make sure that systems are fully implemented throughout the project, for all those engaged in it. An obvious example of this problem is that it is frequently the case that a client insists on putting a strong OS&H clause in the contract with the main contractor, but this clause may not be repeated all the way down to a small labour contractor.

THOSE INVOLVED	PROJECT STAGES				
	Briefing	Design	Procurement	Construction	Commission
Client	███ (black)	███ (black)	███ (black)	▓▓ (grey)	███ (black)
Authorities	▓▓ (grey)	▓▓ (dark grey)	(white)	░░ (light grey)	░░ (light grey)
Project managers	███ (black)	███ (black)	███ (black)	███ (black)	███ (black)
Local residents	░░ (light grey)	░░ (light grey)	(white)	▓▓ (grey)	░░ (light grey)
Designers	▓▓ (grey)	███ (black)	(white)	▓▓ (grey)	▓▓ (dark grey)
Contractors	(white)	(white)	███ (black)	███ (black)	███ (black)
Other consultants	▓▓ (dark grey)	▓▓ (grey)	▓▓ (grey)	░░ (light grey)	░░ (light grey)
Sub-contractors	(white)	░░ (light grey)	███ (black)	███ (black)	▓▓ (grey)
Suppliers	(white)	░░ (light grey)	░░ (light grey)	███ (black)	░░ (light grey)
Workers	(white)	(white)	(white)	███ (black)	███ (black)
Users	░░ (light grey)	░░ (light grey)	(white)	░░ (light grey)	███ (black)

The second and third 'principal factors' shown in the above diagram in Section 5 were summarized in the ILO Guide as follows:

THE NEED FOR KNOWLEDGE

Most people will take steps to reduce risk if they have sufficient knowledge of its existence. They need to know not just that the risk exists, but where, when and with what ferocity it will emerge. The key element is knowledge. The distribution and effective use of knowledge is a major management contribution to safety. With better information, instruction and training, most health and safety problems could be avoided. The ILO publication *Accident prevention* (Geneva, 2nd ed., 1983) provides valuable guide-lines in this respect.

The difficulty faced by managers is in making people fully aware of the need for safety. The key feature is the direct personal relevance of the information provided. General warnings, such as statutory warning notices displayed in works canteens, seem to have little effect. The project management team must take a positive approach to providing relevant, concise and clear information to the people involved, and do their utmost to ensure that this information is assimilated and acted upon.

> RESOURCES
>
> It is obvious that accidents and illness mean additional costs, and perhaps disruption of a project. It is, however, difficult to quantify these effects in financial terms, and equally difficult to quantify the financial benefits that may arise from the effective management of health and safety. Any measures taken which require the use of resources additional to the minimum required for "production" may therefore be seen only as additional expense. This expense may be significantly reduced if health and safety are given careful thought at the outset; but any safety policy must accept that some resources must be expended in achieving purely humanitarian objectives.

7   REQUIRES REAL COMMITMENT FROM ALL INVOLVED

The following quotation from the 1984 ILO book "Managing construction projects" remains relevant today:

"High standards of safety should be an objective pursued in the same way and with as much vigour as other management objectives. The aim of most development projects is to improve the general well-being of the inhabitants of the country concerned. It is a reasonable humanitarian aim to ensure that the well-being of the people engaged in the project itself is preserved and perhaps enhanced."

This philosophy places responsibility on all those engaged in construction projects to make the safety and health of themselves and those that they are working with one of their main priorities. This is essential to the effective application of OS&H principles and practices in an organization. The examples given above from Bovis and Murphy are very good examples of positive policies.

As stated in ILO-OSH-2001, senior management commitment is obviously crucial:

"The employer should show strong leadership and commitment to OSH activities in the organization and make appropriate arrangements for the establishment of an OSH management system".

The fourth 'principal factor' shown in the above diagram in Section 5 was summarized in the ILO Guide as follows:

"Only senior management has the influence, power and resources to take initiatives and set standards. Positive attitudes of senior managers will be reflected in a high degree of health and safety awareness throughout the project. The converse is also true, and lack of demonstrable interest by senior management in the welfare of the people involved will have a strongly detrimental effect on general morale and team spirit."

(ILO Guide to Construction Projects)

The project matrix given in Section 6 above shows how complex even modest construction projects can be in terms of all those involved, so it may be very difficult to follow such policies through to implementation in the workplace. Nevertheless, this can be achieved. A very progressive and encouraging project can be found in the rebuilding of the Baphuson Temple in Angkor, Cambodia, as described by an excellent short video on www.ilo.tv.org (See Knowledge Base). The video describes how good health and safety practices have been used during the re-construction of this historic temple. Workers have a large role in the design and application of safe working, and in training fellow workers. The site is also used as a demonstration project and for on-site training.

8   BASIC CONCEPTS OF HAZARDS AND RISKS

The following quotations are taken from the ILO-OSH-2001 (see Knowledge Base):

Hazard: The inherent potential to cause injury or damage to people's health

Hazard assessment: A systematic evaluation of hazards

Risk: A combination of the likelihood of an occurrence of a hazardous event and the severity of injury or damage to the health of people caused by this event

The following extracts from ILO-OSH-2001 explain the ILO's approach to managing hazards:

"3.10.1.1. Hazards and risks to workers' safety and health should be identified and assessed on an ongoing basis. Preventive and protective measures should be implemented in the following order of priority:
(a) eliminate the hazard/risk;
(b) control the hazard/risk at source, through the use of engineering controls or organizational measures;
(c) minimize the hazard/risk by the design of safe work systems, which include administrative control measures; and
(d) where residual hazards/risks cannot be controlled by collective measures, the employer should provide for appropriate personal protective equipment, including clothing, at no cost, and should implement measures to ensure its use and maintenance."

Clause 3.10.1.2 states that hazard prevention and control procedures or arrangements should be established and should:
"(a) be adapted to the hazards and risks encountered by the organization;
(b) be reviewed and modified if necessary on a regular basis;
(c) comply with national laws and regulations, and reflect good practice; and
(d) consider the current state of knowledge, including information or reports from organizations, such as labour inspectorates, occupational safety and health services, and other services as appropriate."

These basic concepts of hazards and risks are explained and developed more thoroughly in the Theme Summary "Processes and systems".

The table below summarises some of the fundamental hazards which are likely to be encountered on construction sites. It is based on a publication by safe@work published by the State of Victoria Department of Education & Training in 2002: See www.sofweb.vic.edu.au. It is designed for school students who are taking their work experience in the construction industry, which all construction clients, design teams and contractors should encourage.

Hazard	Possible harmful effects
Powered tools and non-powered tools, including jackhammers, bolt-cutters and hand-held cutting saws	• Exhaust fumes • Contact with electrical conductors • Contact with cutting blades • Part of equipment breaking up, flying material
Working at height	Falls with potential for serious or fatal injury
Climbing on heavy construction equipment	Falls with potential for serious or fatal injury
Excavations	Collapse of excavations can bury people, causing crushing or asphyxiation
Mobile plant, including mobile platforms and moving traffic	Being struck by vehicles
Un-levelled terrain	Trips and falls
Cement products and other hazardous substances	• Dermatitis • Burns • Abrasion • Inhalation of harmful particles
Manual handling (involving bending, reaching, stretching, pulling, lifting, repetitive motions, and awkward posture)	Muscular disorders, including sprains and strains
Excessive noise	Long term exposure can cause deafness
Vibration	Musculoskeletal disorders
Heat, cold, wet and other weather conditions	• Heat rashes • Heat stress • Dehydration • Sunburn • Long-term exposure to UV radiation can cause cataracts and skin cancers • Frostbite • Hypothermia
Fatigue	• Cramps • Numbness
Inadequate amenities e.g. drinking water, toilets and washing facilities	Poor hygiene causes infections and allows then to spread
Sexual harassment and orkplace bullying	• Emotional stress • Fear and anxiety • Physical illness

(The ILO is grateful to the State of Victoria Department of Education & Training for the use of this table, which has been adapted for use in Construction OS&H. It is 207 words long, so has been used under the convention of 'Fair Use' which allows a maximum of 400 words to be used without seeking formal permission.)

9   THE BUSINESS CASE FOR OS&H AND BUSINESS DECISIONS

"Disease and injury do not go with the job nor can poverty justify disregard for workers' safety and health"

(ILO-OSH-2001)

No 'business case' should replace this basic ethical concept, but rational business arguments can lend support to it. ILO-OSH-2001 sets the context:

"Today, technological progress and intense competitive pressures bring rapid change in working conditions, work processes and organization. Legislation is essential but insufficient on its own to address these changes or to keep pace with new hazards and risks. Organizations must also be able to tackle occupational safety and health challenges continuously and to build effective responses into dynamic management strategies. These Guidelines on occupational safety and health management systems will support this effort."

and what may be called "**the social business case**" has been described as follows:

"Changes in technology and production systems have led to changes in social consciousness, and to a new awareness of personal identity and human rights. Increasing consumer choice and access to knowledge and new means of communication have made individuals and social institutions not merely subjects but also potential actors in the process of globalization. Social preferences influence market outcomes and have an impact on corporate reputations. A good corporate social image is increasingly essential for business success."

(ILO Decent Work Report, Section 1)

"We promote the social dimension of sustainable development in economic growth, environmental conservation and society since it will not make construction more expensive. For example, a good working environment reduces the risks of heavy physically demanding work, leads to fewer accidents at work, fewer sick days and thus shorter times and lower costs for the total construction."

(BWI web site)

Professor Alan Griffith of Sheffield Hallam University, UK, (author of 'Developing an integrated quality, safety and environmental management system', see Knowledge Base) has contributed the following framework to this Theme for the analysis of a business case.

"The business case and the economic case for OS&H must focus on:

- *OS&H is simply not optional – construction is dependent upon much and detailed legislation and regulation, so to discount on economic grounds is a non-starter.*

- *OS&H approaches do not put a price on life – it is a given that the safety of personnel is placed first and foremost irrespective of cost.*

- *The ramifications of OS&H if personnel get injured far outweigh any cost of not putting in place the requisite OS&H approach on construction projects.*

- *OS&H is a simple performance indicator which can/will be checked and verified at any pre-selection/pre-tender stage - many governmental organisations routinely check the OS&H record/performance of all tendering contractors.*

- *Organisations that invoke good OS&H practices and systems are generally diligent in other project performance indicators as this is a good indicator of ethos, culture and systematic approach.*

- *The OS&H management system is the cost item but the cost effective/cost reduction approach is to maximise the corporate system and minimise the project application (i.e. keep it simple, task effective, not based in bureaucracy/red-tape.*

- *Make the OS&H approach vested in the workforce through routine OS&H practice rather than implement OS&H as a managerial stick. The cost then becomes intrinsic to the workforce performance and not the management approach."*

An excellent and brief guide (nine pages) to preparing a business case has been published by the Government of Australia. (See "Guidance on preparing a simple OHS business case" in the Knowledge Base).

Guidance is also available from http://osha.europa.eu/en/topics/business/performance and http://www.osha.gov/dcsp/products/topics/businesscase/index.html.

An excellent case study which illustrates the social business case for responsible and effective OS&H practices is given in a Chapter by Smallwood and Lingard in the book "Corporate social responsibility in the construction industry", which is summarised in the Knowledge Base. This case describes the actions of an Australian company to avoid liability to its workers who had been exposed to toxic asbestos by legalistic changes to the structure of the company, including moving its parent company to the Netherlands. A special Commission of Enquiry by the New South Wales Government described the company's actions as 'a corporate washing of hands'. The publicity generated through this whole affair led to a 30% fall in the company's shares, and in the end, at enormous cost, the company did provide compensation for those employees who were affected.

In very practical ways, the business arguments for effective OS&H practices include:

- Incidents (accidents) have a very negative effect on staff motivation and morale generally
- Incidents cause delays and disruption, which has financial costs
- Delays and disruption may result in overall project delays
- Incidents may result in damage to the works, requiring remedial work
- The number and severity of incidents has an effect on insurance premiums
- A poor reputation for OS&H makes it difficult to recruit good employees
- A poor reputation for OS&H may influence potential clients, who may not wish to have their own reputations tarnished

10   MONITORING, REPORTING AND REVIEWING PERFORMANCE

As a final conclusion from the preceding sections of this Theme, all organisations should strive towards 'zero incidents' and provide a healthy working environment for all those involved in all their construction projects. This can only be achieved through the formulation, application and continual assessment, revision and improvement of comprehensive management systems.

The ILO's 'Guidelines on occupational safety and health management systems' provides expert guidance on such systems, which are depicted diagrammatically below:
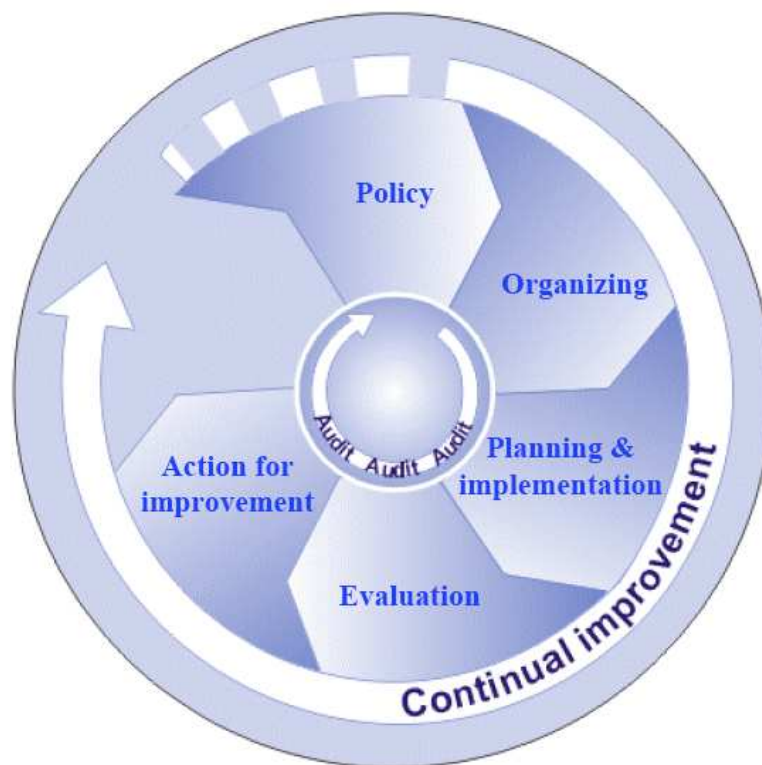
The cycle of 'continual improvement' shown in the diagram is a crucial concept, and the information provided in the preceding Sections shows that, in the construction industry, there is much scope for improvement.

FINALLY

'Hazards Magazine' is a useful way to keep up to date: www.hazards.org

See relevant elements of the Knowledge Base, at the end of the Theme Summary, for more information.

11   APPENDIX

Decent Work, Safe Work

by Juan Somavía

Director-General, International Labour Office

The right to life is the most fundamental right. Yet every year 1.2 million *[as of 1999; 2.2 million according to 2005 figures]* men and women are deprived of that right by occupational accidents and work-related diseases. By conservative estimates workers suffer 250 million *[as of 1999; 270 million according to 2005 figures]* occupational accidents and 160 million *[according to both 1999 and 2005 figures]* occupational diseases each year. Deaths and injuries take a particularly heavy toll in developing countries, where large numbers of workers are concentrated in primary and extractive activities such as agriculture, logging, fishing and mining - some of the world's most hazardous industries.

This social and economic burden is not evenly distributed. Fatality rates in some European countries are twice as high as in some others, and in parts of the Middle East and Asia fatality rates soar to four-fold those in the industrialized countries with the best records. Certain hazardous jobs can be from 10 to 100 times riskier. Likewise, insurance coverage for occupational safety and health varies widely in different parts of the world: workers in Nordic countries enjoy nearly universal coverage while only 10 per cent or less of the workforce in many developing countries is likely to enjoy any sort of coverage. Even in many developed countries, coverage against occupational injury and illness may extend to only half the workforce.

The International Labour Organization was founded to ensure everyone the right to earn a living in freedom, dignity and security, in short, the right to decent work. We have never accepted the belief that injury and disease "go with the job". In the course of this century industrialized countries have seen a clear decrease in serious injuries, not least because of real advances in making the workplace healthier and safer. The challenge is to extend the benefits of this experience to the whole working world.

SafeWork is designed to respond to this need. It's primary objectives are: (a) to create worldwide awareness of the dimensions and consequences of work-related accidents, injuries and diseases; (b) to promote the goal of basic protection for all workers in conformity with international labour standards; and (c) to enhance the capacity of member States and industry to design and implement effective preventive and protective policies and programmes.

The programme will pursue a two-pronged approach. It will create alliances and partnerships by launching activities which can be used by ILO constituents, non-governmental organizations and human rights groups in advocacy campaigns and in

calling for vigorous action by governments. Second, it will support action at the national level through an integrated programme of direct technical assistance. This will include the development of management tools and monitoring and information services designed to prevent occupational accidents and diseases and to protect the health and welfare of workers and the environment.

The primary focus will be on hazardous occupations. It will target workers in highly hazardous occupations, categories of workers vulnerable on account of gender or age, and workers in the urban informal sector who usually lack basic health protection.

The success of our effects depends on mobilizing our constituency in the world at large including the many committed professionals in the occupational safety and health community. I would, therefore, like to call on governments, employers' and workers' organizations of our member States and the international community to put the elimination of workplace hazards at the top of the public agenda.

I would like to invite the international donor community to support our effort to lift this unacceptable burden on the world's workforce. Finally, I would like to call on you, the readers of this message, to join us in our global campaign to ensure decent working conditions for all working women and men throughout the world.

12   RELEVANT ELEMENTS OF THE KNOWLEDGE BASE

Title	Ethics for the built environment
Author	Peter Fewings
Type of source	Book, 377 pages
Publication or other source details	Taylor and Francis, 2 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN, UK and 270 Madison Avenue, New York, NY 10016, USA
Date & ISBN/ISSN	2009, 0:0-415-42982-X and 3:0-415-42982-5
Summary of contents	Part I: Theory and application 1. Development of an ethical framework for the built environment 2. Ethical dilemmas and decision-making 3. Business ethics and corporate social responsibility policy 4. The development of professional ethical codes 5. Discrimination and human resources ethics in the built environment 6. The ethics of construction quality, safety, health and welfare 7. The planning ethics 8. Ethics of sustainability: a UK example 9. Trust and relationships 10. Bribery and corruption 11. Delivering ethical improvement through contractual good faith Part II: Case studies of good practice
Comments on relevance	This is an excellent review of ethics within the context of this training programme, and Chapter 6 is especially relevant

Title	Documents from the Murphy Group
Type of source	Advertisement, OSH policy and certificate from a major British Isles construction company
Publication or other source details	Murphy Group web site www.murphygroup.co.uk
Date & ISBN/ISSN	15 11 2008 and other dates
Summary of contents	These three documents give an interesting insight into a major construction company. An advertisement has safety as its major focus, and from the web site given the company's policy documents may be downloaded and also the certificate for compliance with OHSAS 18001
Comments on relevance	Good example for the Contractors' package

Title	Bovis Lend Lease web site
Type of source	Web site of a major international construction company
Publication or other source details	http://www.bovislendlease.com/llweb/bll/main.nsf
Date & ISBN/ISSN	This information downloaded November 2008
Summary of contents	This summaries three web pages entitled: • Asia: Bovis Lend Lease Pharmaceutical honoured for its Safety Excellence at National Awards • United Kingdom: Bovis Lend Lease sets new industry standard for tower crane safety • Bovis Lend Lease Wins Three Safety Awards in the USA These are of general interest as examples of a company with a very strong commitment to OS&H whose achievements are being recognised by external organisations. The UK web site features a new application of digital communications to the control of tower cranes: "The Crane Integrated Safety System (CISS), developed jointly by Bovis Lend Lease and Aspect International, increases visibility for tower crane operatives enhancing communications between operatives and their respective banksmen, and it is hoped that the CISS system will set new safety standards within the industry."
Comments on relevance	Very relevant to the Contractors' package

Title	Introductory report: Beyond death and injuries: The ILO's role in promoting safe and healthy jobs
Type of source	Report to a conference
Publication or other source details	XVIII World Congress on Safety and Health at Work, June 2008, Seoul, Korea Author: Al Tuwaijri, Sameera et al http://www.ilo.org/public/english/protection/safework/wdcongrs18/safework_report.pdf
Date & ISBN/ISSN	International Labour Office, Geneva: ILO, 2008. ISBN: 978-92-2-121332-1 (print) ISBN: 978-92-2-121333-8 (web pdf)
Summary of contents	**Introduction** **I – Overview** Work-related fatalities, accidents and diseases A promotional framework for OSH OSH and safety culture OSH and management systems National OSH policy National OSH systems National OSH programmes National OSH profiles **II – ILO action on OSH, 2005-2008** Promotion, awareness raising and advocacy The World Days for Safety and Health at Work Development of specific OSH standards and instruments Technical assistance Promotion of ILO OSH standards Labour inspection Knowledge development, management and dissemination International collaboration Silicosis Asbestos HIV/AIDS and the workplace Chemical safety, GHS and SAICM Other areas of collaboration **III – Looking to the future** Foresight and OSH Emerging risks Physical risks Biological risks Chemical risks Risks related to nanotechnologies Workers well-being Changing patterns in the workforce The informal economy Migrant workers The gender dimension Ageing of workers **Conclusions** **Annexes**
Comments on relevance	This is a most useful and relevant report, bringing much general thinking and documents up to date. Essential reading for all trainers in OS&H.
Other information	Full report is in the Downloads ILO folder as 'ILO report to XVIII World Congress on Safety and Health at Work, June 2008, Seoul, Korea', downloaded 3 February 2009

Title	Corporate social responsibility in the construction industry
Author(s)	Edited by Mike Murray and Andrew Dainty
Type of source	Book, 410 pages
Publication or other source details	Taylor & Francis, 2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN, United Kingdom. Simultaneously published in the USA & Canada by Taylor & Francis, 270 Madison Avenue, new York, NY 10016.
Date & ISBN/ISSN	2009. 0:0-415-36207-5 (hbk); 36208-3 (pbk); 0:0-203-01233-X (ebk)
Summary of contents	This is a book of 16 papers in five parts, as follows: 1. Evolution of CSR in the construction industry 2. Impact of construction on communities 3. Prevalence and nature of corrupt practices 4. Sustainable development 5. International perspectives on corporate social responsibility in construction There are 28 authors from a wide range of professions, which in itself illustrates the diverse meanings that can be attached to this term.
Comments on relevance	Chapter 1 by Mike Murray and Andrew Dainty gives a good introduction, but Chapter 12 "OH&S and CSR" by John Smallwood and Helen Lingard is an excellent review of how CSR relates to OS&H.
Other information	Very relevant to Theme Summary 1: 'Fundamental Principles'

Title	Managing construction projects: A guide to processes and procedures
Author(s)	Edited by A D Austen and R H Neale
Type of source	Book, 158 pages
Publication or other source details	International Labour Office, Geneva
Date & ISBN/ISSN	1984. 92-2-103553-0
Summary of contents	Introduction A building project A civil engineering project Organisation and management functions Planning Procurement Control Health and Safety Communication and reporting Planning techniques Appendices: checklists, job description for a project manager, glossary, select bibliography
Comments on relevance	Although now an old book, it provides a clear and straightforward review of the topic in an international context, much of which is still relevant. It forms the basis of the project management element of **Construction OS&H**
Other information	Note that Chapter 8 gives a simple review of OS&H under the following headings: Objectives; participants; principal factors; activities; causes of accidents; project management team functions.

Title	Guidelines on occupational safety & health management systems
Author(s)	ILO SafeWork In Focus programme
Type of source	Report
Publication or other source details	ILO-OSH 2001
Date & ISBN/ISSN	2001. ISBN 92-2-111634-4
Summary of contents	The positive impact of introducing occupational safety and health (OSH) management systems at the *organization1* level, both on the reduction of hazards and risks and on productivity, is now recognized by governments, employers and workers. These guidelines on OSH management systems have been developed by the International Labour Organization (ILO) according to internationally agreed principles defined by the ILO's tripartite constituents. This tripartite approach provides the strength, flexibility and appropriate basis for the development of a sustainable safety culture in the *organization.* The ILO has therefore developed voluntary guidelines on OSH management systems which reflect ILO values and instruments relevant to the protection of workers' safety and health. The practical recommendations of these guidelines are intended for use by all those who have responsibility for occupational safety and health management. They are not legally binding and are not intended to replace national laws, regulations or accepted standards. Their application does not require certification. The employer is accountable for and has a duty to organize occupational safety and health. The implementation of an OSH management system is one useful approach to fulfilling this duty. The ILO has designed these guidelines as a practical tool for assisting *organizations* and competent institutions as a means of achieving continual improvement in OSH performance. The Guidelines cover national policy and OS&H systems in the organisation.
Comments on relevance	Very fundamental set of principles
Other information	These Guidelines are the foundation of this training package. They have been downloaded ('Downloads' folder)

Title	Rebuilding Baphuon Temple in Angkor, Cambodia
Author(s)	ILO
Type of source	Short TV programme
Publication or other source details	http://tv.ilo.org/
Date & ISBN/ISSN	© 1996 - 2008 International Labour Organization (ILO)
Summary of contents	Describes how good health and safety practices have been used during the re-construction of this historic temple. Good demonstrations of working platforms, safety harnesses, eye protection, etc. Workers have a large role in the design and application of safe working. The site is also used as a demonstration project and for on-site training.
Comments on relevance	Very good visual aid on OS&H Used as a training exercise in this package
Other information	Simple to download from tv.ilo, other relevant videos also available.

Title	Guidance on preparing a simple OHS business case
Author(s)	Australian Government, Australian Safety and Compensation Council
Type of source	Nine page booklet
Publication or other source details	Requests and inquiries concerning reproduction and rights should be addressed to Commonwealth Copyright Administration, Attorney-General's Department, Robert Garran Offices, National Circuit, Barton ACT 2600 or posted at http://www.ag.gov.au/cca
Date & ISBN/ISSN	© Commonwealth of Australia 2007 ISBN 978-0-642-32705-5

Summary of contents	"This document provides guidance for occupational health and safety (OHS) practitioners, officers and managers on how to prepare an effective business case for introducing an OHS solution at the workplace."
	
	1.Introduction
	  Why is OHS important?
	  What is an OHS Business Case?
	  Direct Costs
	  Indirect Costs
	2. How do I prepare an OHS Business Case?
	3. Cost-Benefit Analysis
	4. Business case format

Comments on relevance	This is an excellent and succinct guide to the subject.

Title	Hazards Magazine
Type of source	Quarterly magazine, 36-40 pages, available on the Internet
Publication or other source details	Hazards, PO Box 4042, Sheffield, S8 2DG, England Telephone +44 114 201 4265 Subscription: Jawad Qasrawi sub@hazards.org Editorial Rory O'Neill editor@hazards.org www.hazards.org
Date & ISBN/ISSN	ISSN 0267 7296
Summary of contents	"Hazards is the only independent, Union-friendly magazine to win major international awards. Workplace unions are your best hope for better, safer work - and Hazards provides the information and resources to make the union job easier. Hazards looks behind the company safety hype, and gives union answers to workplace problems. Using a global network of union safety correspondents, Hazards makes sure you have the best information available anywhere."
Comments on relevance	This magazine provides an excellent means of keeping up to date
Other information	Especially relevant to the 'Workers' perspectives' parts of **Construction OS&H**