Thirteenth Session of the Joint ILO/WHO
Committee on Occupational Health

Geneva, 9-12 December 2003

Working Document

Guidelines on Occupational Safety and Health
Management Systems
(ILO-OSH 2001)
Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Background</td>
<td>1</td>
</tr>
<tr>
<td>The Systems Approach</td>
<td>5</td>
</tr>
<tr>
<td>Programs vs. Systems</td>
<td>6</td>
</tr>
<tr>
<td>ILO-OSH 2001</td>
<td>7</td>
</tr>
<tr>
<td>International/Regional</td>
<td>11</td>
</tr>
<tr>
<td>Developments at the national level</td>
<td>11</td>
</tr>
<tr>
<td>3. Recent developments and activities for the promotion of ILO-OSH 2001</td>
<td>11</td>
</tr>
<tr>
<td>4. Challenges ahead for the promotion of OSH-MS</td>
<td>12</td>
</tr>
<tr>
<td>List of References</td>
<td>14</td>
</tr>
</tbody>
</table>
1. Background

As a result of the ever-increasing pace of worldwide liberalization of trade and economies, as well technological progress, the problem of occupational accidents and diseases are becoming more and more global concern, particularly in developing countries. It is estimated that every year about 2 million workers are killed due to work-related accidents and diseases and 270 million occupational accidents and 160 million work-related diseases are occurring. The economic loss related these accidents and diseases are estimated to amount 4% of world gross national product.

Various measures have been taken by the governments, employers and workers to fight this huge social deficit from negative impacts of work. These included both regulatory and voluntary measures. The approach of managing occupational safety and health (OSH) in a systematic way through management system at the enterprise level has become increasing popular in recent years. Responding to this trend and the request for international documents in this field, the ILO published the Guidelines on Occupational Safety and Health Management Systems (ILO-OSH 2001) in 2001 as the first international guidance document on the subject. Below are a quick review of historical development and the background of the development of the ILO-OSH 2001.

One of the origins of OSH management system approach can be seen in the United Kingdom. Until early 1970s, OSH legislation on factories and machineries defined safety measures to be taken at factories. Specific regulations with targeted hazards were continuously introduced as the country encountered new types of accidents and diseases at work. Such legislation tended to be prescriptive in nature, so for example boilers had to have specific safety devices fitted as well as a thorough examination at specified intervals. A similar approach was taken in attempting to combat occupational diseases and health hazards.

In the United Kingdom, the 1972 report of the committee chaired by Lord Robens provided an impetus for change which has continued to the present day. In particular it marked a change from the prescriptive style of health and safety legislation towards the more goal setting legislation which made its first appearance in the Health and Safety at Work Act of 1974. The Act has been supplemented by a series of codes of practice.

Robens report provides some insight into some of the reasons why health and safety needs to be managed. Following are quotes from its conclusions.

"The primary responsibility for doing something about the present levels of occupational accidents and disease lies with those who create the risks and those who work with them”.

"Too many firms still appear to regard accidents as a matter of chance, unpredictable and therefore not susceptible to management”.

"The employer who wants to prevent injuries in the future, to reduce loss and damage and to increase efficiency must look systematically at the total pattern of accidental happenings, whether or not they cause injury or damage and must plan a comprehensive system of prevention,"
rather than relying on ad hoc patching-up of deficiencies which injury accidents have brought to light”.

Robens suggested that the promotion of health and safety is an essential function of good management and that it should be a normal management function just as production or marketing.

In the UK, the Health and Safety Executive (HSE) has been advocating the need to manage safety and health effectively. In 1976 HSE published "Success and Failure in Accident Prevention" which reported on the characteristics of 7 companies with accident incidence rates less than half the average for the particular industrial sector in which the company operated. Key factors were:

- strong and active management commitment to health and safety;
- safety and health being given same level of management attention as other aspects of the business;
- safety and health being seen as a line management responsibility rather than the practice of the safety officer;
- extensive formal and informal contact between management and employees;
- a planned approach to identification and control of hazards and establishment of safe systems of work.

Further in the 1970s and 1980s, there were a number of industrial disasters around the world such as Flixborough, Bhopal and Chernobyl. These accidents resulted in the call for higher management attention. It was no longer acceptable to concentrate solely on the immediate causes of accidents such as human and technical failures but rather to look further at the organization failings which are the responsibility of management. In 1991 the HSE published HSG65 “Successful Health and Safety Management”, which provided guidance for managing safety and health at work systematically.

This approach of systematically managing OSH has also been favoured by many other countries. Many industrialized countries have seen substantial decline in the occupational accident rates over the decades. However, these rates have generally reached a plateau. Novel approaches have been tried to further improve performance through behavior-based-safety techniques, and safety and health auditing concepts. The implementation of OSH management systems facilitates comprehensive action mobilizing these new tools systematically.

For example, in the United States, Since OSHA was created in 1971, the workplace fatality rate among employees has decreased by 62% and occupational injury and illness rates have declined by 42%. At the same time, US employment in the private sector and the number of workplaces has doubled, increasing from 56 million workers at 3.5 million establishments to 114 million workers at 7 million establishments. The decrease in fatalities, injuries and illnesses across such an expanding population of workers demonstrates remarkable progress. Nevertheless, the number of reported fatalities, injuries and illnesses remains unacceptably high. In 2001 there were 5,270 fatalities in private industry (7,534 including September 11 deaths), and in 2000 there
were more than 5.7 million reported injury and illness cases. A similar problem is found in many other industrialized countries.

Interest in OSH management system approach grew as the need for a global approach to OSH management was recognized as a logical and necessary response to the growth of the “global economy”. The benefits of “systems” management approaches become apparent, as we have witnessed the impact of ISO standards for quality and the environment. First, most major companies in the industrially developed world are multinational and favour a standardized approach to safety and health. Japan, for example, has been manufacturing products and dealing with safety concerns around the world for a considerable period of time. Most companies recognize the need and benefits of meeting world standards or best practices for OSH while striving to meet local requirements of the host country. Second, current management science theories suggest that performance is better in all areas of business, including OSH, if it is measured and continuous improvement sought in an organized fashion. Third, two of ISO’s recent standards, ISO 9000 and 14000 series, address areas analogous to OSH. Both standards integrate these functions within a business (management) framework.

One of the advantages to an OSH-MS approach is resolution of the common criticism that OSH is rarely integrated into business systems but rather is typically a stand alone adjunct in most companies. Additional values realized through the use of OSH-MS include:

- alignment of OSH objectives with business objectives;
- integration of OSH into business systems;
- establishment of a logical framework upon which to establish an OSH program;
- establishment of a universal set of more effectively communicated, policies, procedures, programs, and goals;
- applicability to, and inclusive of cultural and country differences;
- establishment of a continuous improvement framework; and,
- provide an auditable baseline for performance measurement.

Some would argue that there are an equal number of disadvantages as well. Those most commonly cited include no need for change from present approaches and practices, social and legal barriers internationally that cannot be overcome by a standardized approach, bureaucracy and cost.

The Systems Approach

The OSH-MS approach to OSH management is based on systems theories developed primarily in the natural and social sciences. Four elements common to general system theories are: input; process; output; and, feedback.

Systems are further characterized as either open or closed systems. In the case of open systems, there are identifiable pathways whereby the system interacts --- exchanging information with and gaining energy --- from its external environment. This phenomenon is readily observed in
biological systems. Conversely, closed systems do not have such pathways, and thus limit their ability to adapt or respond to changing external conditions.

In traditional OSH activities, the focus has been on trailing indicators (outcomes or outputs), such as illness, injury, and fatality statistics. In a systems approach, regulatory compliance and trailing indicators are not neglected; however, there is a shift in focus towards performance variables and metrics from the input and process components of the system. These components can be thought of as being "upstream" from the system output.

**Programs vs. Systems**

An important distinction to make in an OSH-MS approach is that between what are customarily referred to as "programs" and "systems". The distinction is made here between traditional programmatic approaches and the newer systems approaches to OSH management. In the paradigm shift suggested by the development and implementation of OSH-MS, a program operates as singular, vertical, and based on traditional command-control regulations. The focus is on compliance with the program standard/regulation, not the broader impact on OSH. Programs traditionally do not have strong feedback or evaluation mechanisms whereby the program can be adjusted or modified to accommodate changing circumstances.

Conversely, a systems approach --- while not losing sight of programmatic requirements and opportunities for improvement --- broadens in perspective to address the manner in which the program affects other programs, and the extent to which the program may or may not improve worker health and safety. Furthermore, a systems approach focuses on OSH improvement, not exclusively on programmatic regulatory compliance. A key distinction of a systems approach is that there are clear feedback and evaluation mechanisms whereby the system responds to both internal and external events.

In this context, an example of program compliance would be with a single standard, such as a lock-out-tag-out standard for construction or an asbestos standard for general industry. A systems approach integrates individual programs within the business operations and the external environment, and is thus more comprehensive than any single program.

One could argue that this program/system dichotomy is a potentially weak distinction. That is, the programmatic approaches do in fact contain systems qualities and conversely, the systems approaches do in fact contain programmatic qualities. This observation is valid. However, the point of presenting the dichotomy is to elucidate the fact that programmatic OSH management approaches do not reflect or embrace systems concepts. Furthermore, such systems approaches potentially offer previously unrealized opportunities for advancement in OSH.
After the successful introduction of the “systems” approach to management by the International Organization for Standardization (ISO) through its series on Quality Management (ISO 9000 series) and Environmental Management (14000 series) during early 1990s, there was a view that the same approach could be used for managing occupational safety and health at the organization level. The possible initiation of work to develop an ISO standard on OSH Management Systems was discussed at an ISO International Workshop on OSH-MS Standardization in 1996. The workshop formed the view that the ISO should discontinue its respective efforts and that the International Labour Organization (ILO), because of its tripartite structure, would be a more appropriate body than ISO to elaborate international guidance documents for the establishment and implementation of effective occupational safety and health management systems.

In the light of the Workshop conclusion, the Occupational Safety and Health Branch (now: SafeWork) of the ILO, in co-operation with the International Occupational Hygiene Association (IOHA), started in 1998 with the identification of key OSH-MS elements in existing standards. The first step was to review existing OSH management system standards and guidance documents. Based on this review, common elements of OSH management systems were identified and the draft Guidelines were prepared. Over a period of nearly two years, the draft was systematically reviewed by international experts, and improved continuously.

At the end of 1999, the British Standards Institution (BSI), an ISO member body, launched an official proposal for the establishment of a new field of technical activity Occupational health and safety management, with a view to developing an ISO standard. This competing initiative by the ISO to on-going ILO work encountered strong international opposition and a campaign to stop the ISO work. This resulted in the failure of the BSI proposal in favor of the ILO.

The ILO Guidelines on occupational safety and health management systems (ILO-OSH 2001) were adopted at a tripartite Meeting of experts in April 2001. The ILO Governing Body approved the publication of the Guidelines in June 2001. The English version of the Guidelines was published in December 2001 and French and Spanish versions were published in March 2002. ILO-OSH 2001 has been translated into various languages including Bulgarian, Czech, Chinese, German, Hindi, Hebrew Japanese, Korean, Malay, Polish, Portuguese, Russian, Vietnamese and Thai. Further translation into Arabic and Finish is underway.

ILO-OSH 2001 provides a unique international model, compatible with other management system standards and guides. It is not legally binding and not intended to replace national laws, regulations and accepted standards. It reflects ILO values such as tripartism and relevant international standards including the Occupational Safety and Health Convention, 1981 (No. 155) and the Occupational Health Services Convention, 1985 (No. 161). Its application does not require certification, but it does not exclude certification as a means of recognition of good practice if this is the wish of the country implementing the Guidelines.

The ILO Guidelines encourage the integration of OSH-MS with other management system and state that OSH should be an integral part of business management. While integration is desirable, flexible arrangements are required depending on the size and type of operation. Ensuring good OSH performance is more important than formality of integration. As well as this, ILO-OSH 2001 emphasises that OSH should be a line management responsibility at the organization.

The guidelines provide guidance for implementation on two levels - national (Chapter 2) and organizational (Chapter 3).

A. National occupational safety and health management system framework

At the national level, they provide for the establishment of a national framework for occupational safety and health (OSH) management systems, preferably supported by national laws and regulations. Action at national level includes the nomination of (a) competent institution(s) for OSH-MS, the formulation of a coherent national policy and the establishment of a framework for an effective national application of ILO-OSH 2001, either by means of its direct implementation in organizations or its adaptation to national conditions and practice (by national guidelines) and specific needs of organizations in accordance with their size and nature of activities (by tailored guidelines).

The National Policy for OSH-MS should be formulated by competent institution(s) in consultation with employers’ and workers’ organizations, and should consider:

- Promotion of OSH-MS as part of overall management
- Promote voluntary arrangements for systematic OSH improvement
- Avoid unnecessary bureaucracy, administration and costs
- Support by labour inspectorate, safety and health and other services

The functions and responsibilities of implementing institutions should be clearly defined as well. Figure 1 of the Guidelines describes the elements of the national framework for OSH managements systems. It shows the different ways in which ILO-OSH 2001 may be implemented in a member State:
B. The occupational safety and health management system in the organization

Chapter 3 of ILO-OSH 2001 deals with the occupational safety and health management system at the organizational level. The Guidelines stress that compliance to national laws and regulations are the responsibility of the employer. ILO-OSH 2001 encourages the integration of OSH management system elements into overall policy and management arrangements, as well as stressing the importance that at organizational level, OSH should be a line management responsibility, and should not be seen as a task for OSH departments and/or specialists.

The OSH management systems in the organization has five main sections which follow the internationally accepted Demming cycle of Plan-Do-Check-Act, which is the basis to the “system” approach to management. These sections are namely Policy, Organizing, Planning and implementation, Evaluation and Action for improvement.

Policy contains the elements of OSH policy and worker participation. It is the basis of the OSH management system as it sets the direction for the organization to follow. Organizing contains the elements of responsibility and accountability, competence and training, documentation and communication. It makes sure that the management structure is in place, as well as the necessary responsibilities allocated for delivering the OSH policy. Planning and implementation contains the elements of initial review, system planning, development and implementation, OSH objectives and hazard prevention. Through the initial review, it shows where the organization stands concerning OSH, and uses this as the baseline to implement the OSH policy. Evaluation contains the elements of performance monitoring and measurement, investigation of work-related injuries, ill-health, diseases and incidents, audit and management review. It shows how
the OSH management system functions and identifies any weaknesses that need improvement. It includes the very important element of auditing, which should be undertaken for each stage. Persons independent of the activity being audited should conduct audits. This does not necessarily mean third party auditors. Action for improvement includes the elements of preventive and corrective action and continual improvement. It implements the necessary preventive and corrective actions identified by the evaluation and audits carried out. It also emphasizes the need for continual improvement of OSH performance through the constant development of policies, systems and techniques to prevent and control work-related injuries, ill-health, diseases and incidents.

The main sections and their elements of the OSH management system at the organization are shown in figure 2 below:
3. Recent developments and activities for the promotion of ILO-OSH 2001

**International/Regional**

Immediately after the adoption of the ILO-OSH 2001 in May 2001, a *International Symposium on Labour Inspection and ILO-OSH 2001* was held in Dusseldorf, Germany by the ILO and International Association of Labour Inspection (IALI) with the financial Support from Norway. The participants of the symposium exchanged their experiences in the implementation of OSH Management System from the perspective of labour inspectorates. Sweden and Norway have been promoting the application of management system approach as a legal requirement in the OSH legislation for more than a decade, which required a fundamental change in the roles of the inspectorate. ILO-OSH 2001 was considered as a new powerful tool to further promote the management system approach application in the improvement of OSH performance.

**Asian Regional Seminar on OSH Management System** was organized by the ILO in Kuala Lumpur in May 2001 with the financial support from Japan. The seminar provided a useful forum to familiarize the ILO-OSH 2001 and to exchange experiences on the existing OSH management system regulations and guides in Asia. All the participants confirmed the usefulness of the OSH Management System approach in Asia. Further guidance and support from the ILO was considered important.

**Latin American Regional Seminar on OSH Management System** was organized by the ILO in Cartagena, Colombia in August 2001. Tripartite constituents from Argentina, Brazil, Colombia and Costa Rica confirmed the usefulness of OSH-MS approach and discussed the ways to apply it in their countries.

ILO-OSH 2001 was also presented at major international conferences including the 16th World Congress on Occupational Safety and Health (Vienna, 26-31 May 2002) and the OECD Workshop on Integrated Management System (Seoul, 26-29 June 2001).

**Developments at the national level**

As a first step for the national level application promotion, the ILO-OSH 2001 has been translated into various languages including Bulgarian, Czech, Chinese, German, Hindi, Hebrew, Japanese, Korean, Malay, Polish, Portuguese, Russian, Vietnamese and Thai. Further translation is underway into Arabic and Finish.

National seminars and workshops on ILO-OSH 2001 were held with ILO participation in Brazil (November 2001), Indonesia (February 2002), India (May 2002), Sweden (February 2002), Vietnam (March and July 2002), China (July 2002), Malaysia (October 2002) and Thailand (October 2002). These workshops were attended by government officials, representatives of employers’ and workers’ organizations and examined the ways to promote the application of ILO-OSH 2001 in each country.

In September 2001, Germany established a national tripartite Committee (Government, Employers and Workers) to develop a National Framework on OSH-MS and national guidelines based on the ILO-OSH 2001. The Ministry of Labour is the lead agency and the German national guidelines were developed in June 2002. In the UK, British standard BS 8800 “Guide to
occupational health and safety management systems” has been under review and the ILO has provided ILO-OSH 2001 to the members of the review committee as a major reference.

In China, the State Administration of Work Safety (SAWS) developed a comprehensive national framework for the implementation of the ILO-OSH 2001. In December 2001, the SAWS issued the national guidelines based on the ILO-OSH 2001 and established the certification system. The national certification system was developed under the guidance of the National Accreditation Committee for Safety Certification which is a tripartite body with the participation of representatives from employers’ and workers’ organizations. The Office of OSH Management System was created at the National Centre for Safety Science and Technology, which is an institution closely associated with the SAWS. As of April 2003, 34 Certification Agencies have been registered and over 800 enterprises were certified. They have also trained over 4,600 External Auditors and 30,000 Internal Auditors for occupational safety and health management systems. A major challenge for China is to further expand the application at smaller enterprises.

In Malaysia, the Standards and Industrial Research Institute of Malaysia (SIRIM) prepared draft national standard on OSH-MS with the support of the Department of Occupational Safety and Health (DOSH), Ministry of Human Resources. The draft, which is mainly based on ILO-OSH 2001, was made available to the public for comments in May 2003. The DOSH as the competent authority for occupational safety and health plans to further develop a national framework for the promotion of OSH-MS (the proposed national standard on OSH-MS) linking with the Occupational Safety and Health Act and other relevant programmes on OSH in Malaysia.

4. Challenges ahead for the promotion of OSH-MS

It is widely accepted that OSH-MS is a practical and powerful approach to reduce work-related accidents and diseases. This usefulness can be explained by the fact that many national OSH authorities have integrated OSH-MS into their national regulations or issued as voluntary guidelines. As discussed in the section on the National Framework in the ILO-OSH 2001, the key is to develop a national framework on OSH-MS as an integral part of the national strategy and programme on OSH as a collaborative effort of the government, employers and workers. While there are many ways to promote the application of OSH-MS at the enterprise level including regulatory approach, certification approach and voluntary approach with incentives, OSH-MS should be promoted in concert with other measures in each country and not as an isolated action.

In recent years, ILO SafeWork has been promoting the development of National SafeWork Programme, which is a medium-term national programme on occupational safety and health which places OSH high at the national agenda and mobilizes national financial and human resources in an efficient way. It is essential to examine the ways to use OSH-MS as a new and strategic tool for upgrading national action.

The 2003 International Labour Conference adopted “Conclusions concerning ILO standards-related activities in the area of occupational safety and health – A global strategy”. The conclusions reconfirmed the importance of occupational safety and health as a fundamental requirement for achieving the objectives of the Decent Work Agenda and called for the
systematic approach to safety and health both at the national and enterprise levels. The building and maintenance of a national preventative safety and health culture and the introduction of systems approach to OSH management are the fundamental pillars of a global OSH strategy. Thus the importance of ILO-OSH was reaffirmed and rigorous and multiple steps should be taken to promote wide application of OSH management systems.

The matter of “Certification” has been a major concern in many countries. It is a good way to publicly recognize the commitment and efforts of enterprises in improving occupational safety and health. Usually certification requires external audit and thus ensure the third party involvement. On the other hand, “Third Party Certification” often results in the huge expenditure for enterprises due to high consultancy fees. It is also the experience of ISO 9000 that there is a tendency to be satisfied with Certification forgetting the importance of continual improvements in performance. Other differences from ISO 9000 include the fact that real beneficiaries of the system for safety and health are the workers within the enterprises and not the buyers and users of products who are parties outside the organization in which management system is implemented. Therefore there are arguments that why “Certification” is required for internal beneficiaries (workers) who should be able to evaluate the usefulness of the system. Another limitation in the certification approach is difficulties to reach small and medium enterprises due to high costs for obtaining certification.

Other strong way for the promotion of OSH-MS is the linkage with legal requirements. Several countries have made it compulsory to establish OSH Management System for certain categories of industries. Singapore has been implementing compulsory establishment of large construction sites and shipyards for several years and recently expanded to cover chemical plants. Thai Ministry of Industry introduced also a requirement to establish OSH Management System at Major Hazard Installations where highly hazardous chemicals are used or stored. Some countries have introduced an incentive to enterprises by way of exempting certain government inspection for the enterprises which have developed good OSH management systems.

A major challenge in the promotion of OSH-MS is to reach small and medium size enterprises. The need for developing tailored OSH-MS guidelines for small enterprises is foreseen in the ILO-OSH 2001. The concept of OSH-MS could be applicable to all types of enterprises if appropriate adjustments are made to the nature of specific groups of enterprises such as construction industry and small enterprises. It is important to develop also mechanisms to provide technical support to those required as well as the arrangements for financial support, as appropriate.

In support of global effort for the reduction of work-related accidents and diseases, the ILO and the WHO should play a leading role for the promotion of effective application of OSH-MS. This could be done through advisory service to competent authorities for the integration of ILO-OSH 2001 into the national policy on OSH and technical support for the national implementation. OSH-MS could be integrated into various types of support activities and programmes such as training and information services as well as targeted programme like silicosis elimination programme. Other important role of the international organizations is to facilitate the international exchange of experiences particularly those of successful cases. This could be done through integration of OSH-MS aspects in various international meetings including meetings of National CIS Centres and WHO Collaboration Centres. These national centres should be fully briefed on the importance of OSH-MS approach. ILO/ISSA World Congress on Occupational
Safety and Health is also a useful forum for OSH-MS promotion. Further the exchange of experience at the regional and sub-regional levels will be helpful in view of common natures in the regions.

Other steps for promotion of OSH-MS by the ILO and WHO could include:

- Establishing link to the ILO web site on management systems from relevant OSH related web pages of field offices of the ILO and WHO
- Providing information regularly to the ILO and WHO specialists working in the field offices
- Including OSH-MS related articles in the periodicals and newsletters
- Organizing joint ILO/WHO workshops on OSH-MS at the sub-regional and national levels
- Developing tailored guidelines and manuals for specific target groups such as health service institutions
- Facilitating the dialogue between the ministries of labour and health focusing around OSH-MS
- Encouraging national authorities and institutions to translate ILO-OSH 2001 into local languages
- Encouraging both ministries of labour and health to work on pilot implementation at the enterprises
- Integrating OSH-MS in the various OSH training programmes
- Mobilizing the national networks of non-governmental OSH associations and academic institutions in promoting OSH-MS

In promoting the application of ILO-OSH 2001, ILO and WHO should pay attention to the need and existing capacity of each country. Flexible approach aiming at practical and continual progress would be important. Regular dialogue with the constituents and partners is essential.

List of References

1) Safety Culture at Work, ILO, 2003
5) OSHA 2003-2008 Strategic Management Plan, Occupational Safety and Health Administration, Department of Labor, United States, 2003
6) Managing Health and Safety: Some Issues, Dr Norman Byrom, HM Principal Inspector of Health and Safety, Health and Safety Executive, UK (paper presented at the JISHA Convention, Kanazawa City, October 2000)
7) Summary Report of the Joint ILO/IALI international symposium on labour inspection and occupational safety and health management system, May 2001