Working Draft 1, November 2007

OHSAS 18002

Occupational health and safety management systems
- Guidelines for the implementation of OHSAS 18001:2007

OHSAS 18002

Acknowledgement

Contents

Foreword

This Occupational Health and Safety Assessment Series (OHSAS) guideline, and OHSAS 18001:2007, *Occupational health and safety management systems — Requirements*, have been developed in response to customer demand for a recognizable occupational health and safety management system standard against which their management systems can be assessed and certified, and for guidance on the implementation of such a standard.

OHSAS 18001 is compatible with the ISO 9001:2000 (Quality) and ISO 14001:2004 (Environmental) management systems standards, in order to facilitate the integration of quality, environmental and occupational health and safety management systems by organizations, should they wish to do so.

OHSAS 18002 quotes the specific requirements from OHSAS 18001 and follows with relevant guidance. The clause numbering of OHSAS 18002 is aligned with that of OHSAS 18001. Text given with an outlined box is an exact duplication of text from OHSAS 18001.

OHSAS 18002 will be reviewed or amended when considered appropriate. Reviews will be conducted when new editions of OHSAS 18001 are published (expected when revised editions of either ISO 9001 or ISO 14001 are published).

This OHSAS Standard will be withdrawn on publication of its contents in, or as, an International Standard.

This OHSAS Standard has been drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

This second edition cancels and replaces the first edition (OHSAS 18002:2000), which has been technically revised.

The principal changes with respect to the previous edition are as follows:

- To be added

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This publication does not purport to include all necessary provisions of a contract. Users are responsible for its correct application.

Compliance with this Occupational Health and Safety Assessment Series (OHSAS) Standard cannot confer immunity from legal obligations.

Introduction

Organizations of all kinds are increasingly concerned with achieving and demonstrating sound occupational health and safety (OH&S) performance by controlling their OH&S risks, consistent with their OH&S policy and objectives. They do so in the context of increasingly stringent legislation, the development of economic policies and other measures that foster good OH&S practices, and increased concern expressed by interested parties about OH&S issues.

Many organizations have undertaken OH&S "reviews" or "audits" to assess their OH&S performance. On their own, however, these "reviews" and "audits" may not be sufficient to provide an organization with the assurance that its performance not only meets, but will continue to meet, its legal and policy requirements. To be effective, they need to be conducted within a structured management system that is integrated within the organization.

The OHSAS Standards covering OH&S management are intended to provide organizations with the elements of an effective OH&S management system that can be integrated with other management requirements and help organizations achieve OH&S and economic objectives. These standards, like other International Standards, are not intended to be used to create non-tariff trade barriers or to increase or change an organization's legal obligations.

OHSAS 18001 specifies requirements for an OH&S management system to enable an organization to develop and implement a policy and objectives which take into account legal requirements and information about OH&S risks. It is intended to apply to all types and sizes of organizations and to accommodate diverse geographical, cultural and social conditions. The basis of the approach is shown in Figure 1. The success of the system depends on commitment from all levels and functions of the organization, and especially from top management. A system of this kind enables an organization to develop an OH&S policy, establish objectives and processes to achieve the policy commitments, take action as needed to improve its performance and demonstrate the conformity of the system to the requirements of OHSAS 18001. The overall aim of OHSAS 18001is to support and promote good OH&S practices, in balance with socio-economic needs. It should be noted that many of the requirements can be addressed concurrently or revisited at any time.

The second, 2007, edition of OHSAS 18001 is focused on clarification of the first, 1999, edition, and has taken due consideration of the provisions of ISO 9001, ISO14001, ILO-OSH, and other OH&S management system standards or publications to enhance the compatibility of these standards for the benefit of the user community.

There is an important distinction between OHSAS 18001, which describes the requirements for an organization's OH&S management system and can be used for certification/registration and/or self-declaration of an organization's OH&S management system, and a non-certifiable guideline, such as OHSAS 18002, intended to provide generic assistance to an organization for establishing, implementing or improving an OH&S management system. OH&S management encompasses a full range of issues, including those with strategic and competitive implications. Demonstration of successful implementation of OHSAS 18001 can be used by an organization to assure interested parties that an appropriate OH&S management system is in place.

Any reference to other International Standards is for information only.
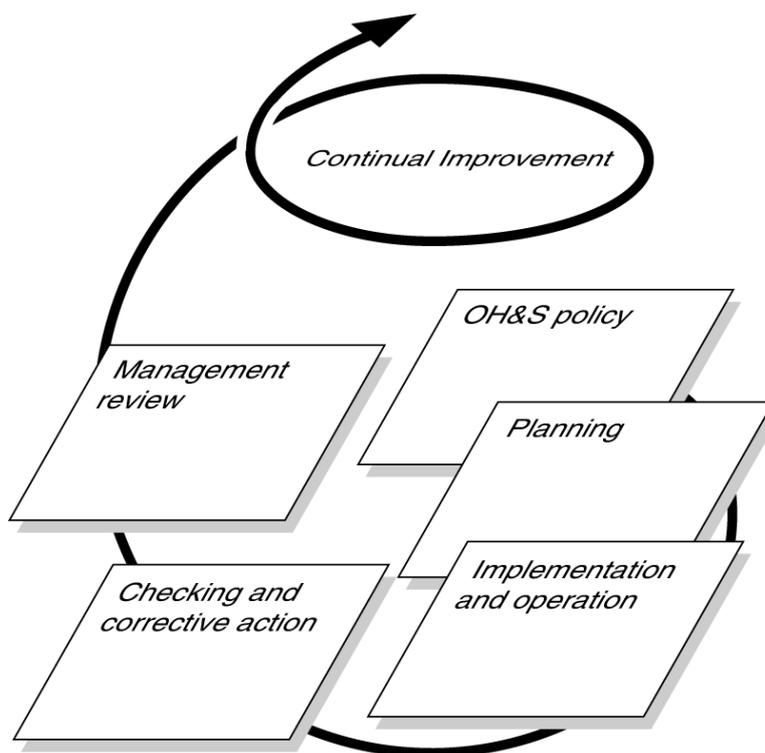
NOTE   This OHSAS Standard is based on the methodology known as Plan-Do-Check-Act (PDCA). PDCA can be briefly described as follows.

Plan: establish the objectives and processes necessary to deliver results in accordance with the organization's OH&S policy.

Do: implement the processes.

Check: monitor and measure processes against OH&S policy, objectives, legal and other requirements, and report the results.

Act: take actions to continually improve OH&S performance.

Many organizations manage their operations via the application of a system of processes and their interactions, which can be referred to as the "process approach". ISO 9001 promotes the use of the process approach. Since PDCA can be applied to all processes, the two methodologies are considered to be compatible.

Figure 1 – OH&S management system model for this OHSAS Standard

OHSAS 18001 contains requirements that can be objectively audited; however it does not establish absolute requirements for OH&S performance beyond the commitments, in the OH&S policy, to comply with applicable legal requirements and with other requirements to which the organization subscribes, to the prevention of injury and ill health and to continual improvement. Thus, two organizations carrying out similar operations but having different OH&S performance can both conform to its requirements.

OHSAS 18001 does not include requirements specific to other management systems, such as those for quality, environmental, security, or financial management, though its elements can be aligned or integrated with those of other management systems. It is possible for an organization to adapt its existing management system(s) in order to establish an OH&S management system that conforms to the requirements OHSAS 18001. It is pointed out, however, that the application of various elements of the management system might differ depending on the intended purpose and the interested parties involved.

The level of detail and complexity of the OH&S management system, the extent of documentation and the resources devoted to it depend on a number of factors, such as the scope of the system, the size of an organization and the nature of its activities, products and services, and the organizational culture. This may be the case in particular for small and medium-sized enterprises.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to viii, pages 1 to 64, an inside back cover and a back cover

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1   Scope

This Occupational Health and Safety Assessment Series (OHSAS) guideline provides generic advice on the application of OHSAS 18001.

It explains the underlying principles of OHSAS 18001 and describes the intent, typical inputs, processes and typical outputs, against each requirement of OHSAS 18001. This is to aid the understanding and implementation of OHSAS 18001.

OHSAS 18002 does not create additional requirements to those specified in OHSAS 18001 nor does it prescribe mandatory approaches to the implementation of OHSAS 18001.

OHSAS 18001 text

This Occupational Health and Safety Assessment Series (OHSAS) Standard specifies requirements for an occupational health and safety (OH&S) management system, to enable an organization to control its OH&S risks and improve its OH&S performance. It does not state specific OH&S performance criteria, nor does it give detailed specifications for the design of a management system.

This OHSAS Standard is applicable to any organization that wishes to:

a)   establish an OH&S management system to eliminate or minimize risks to personnel and other interested parties who could be exposed to OH&S hazards associated with its activities;

b)   implement, maintain and continually improve an OH&S management system;

c)   assure itself of its conformity with its stated OH&S policy;

d)   demonstrate conformity with this OHSAS Standard by:

   1)   making a self-determination and self-declaration, or

   2)   seeking confirmation of its conformance by parties having an interest in the organization, such as customers, or

   3)   seeking confirmation of its self-declaration by a party external to the organization, or

   4)   seeking certification/registration of its OH&S management system by an external organization.

All the requirements in this OHSAS Standard are intended to be incorporated into any OH&S management system. The extent of the application will depend on such factors as the OH&S policy of the organization, the nature of its activities and the risks and complexity of its operations.

This OHSAS Standard is intended to address occupational health and safety, and is not intended to address other health and safety areas such as employee wellbeing/wellness programs, product safety, property damage or environmental impacts.

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2   Reference publications

Other publications that provide information or guidance are listed in the Bibliography. It is advisable that the latest editions of such publications be consulted. Specifically, reference should be made to the following publications:

OHSAS 18001:2007, *Occupational health and safety management systems — Requirements.*

International Labour Organization:2001, *Guidelines on Occupational Health and Safety Management Systems (OSH-MS)*

ISO 19011:2002, *Guidelines for quality and/or environmental management systems auditing.*

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3 Terms and definitions

For the purposes of this document, the terms and definitions given in OHSAS 18001 apply.

OHSAS 18001 text

3.1
acceptable risk
risk that has been reduced to a level that can be tolerated by the organization having regard to its legal obligations and its own OH&S policy (3.16)

3.2
audit
systematic, independent and documented process for obtaining "audit evidence" and evaluating it objectively to determine the extent to which "audit criteria" are fulfilled

[ISO9000:2005, **3.9.1**]

NOTE 1 Independent does not necessarily mean external to the organization. In many cases, particularly in smaller organizations, independence can be demonstrated by the freedom from responsibility for the activity being audited.

NOTE 2 For further guidance on "audit evidence" and "audit criteria", see ISO 19011.

3.3
continual improvement
recurring process of enhancing the **OH&S management system** (**3.13**) in order to achieve improvements in overall **OH&S performance** (**3.15**) consistent with the **organization's** (**3.17**) **OH&S policy** (**3.16**)

NOTE 1 The process need not take place in all areas of activity simultaneously.

NOTE 2 Adapted from ISO 14001:2004, **3.2**.

3.4
corrective action
action to eliminate the cause of a detected **nonconformity** (**3.11**) or other undesirable situation

NOTE 1 There can be more than one cause for a nonconformity.

NOTE 2 Corrective action is taken to prevent recurrence whereas **preventive action** (**3.18**) is taken to prevent occurrence.

[ISO 9000:2005, **3.6.5**]

3.5
document
information and its supporting medium
NOTE   The medium can be paper, magnetic, electronic or optical computer disc, photograph or master sample, or a combination thereof.

[ISO 14001:2004, **3.4**]

3.6
hazard

source, situation, or act with a potential for harm in terms of human injury or **ill health** (**3.8**), or a combination of these

3.7
hazard identification

process of recognizing that a **hazard** (**3.6**) exists and defining its characteristics

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3.8
ill health

identifiable, adverse physical or mental condition arising from and/or made worse by a work activity and/or work-related situation

3.9
incident

work-related event(s) in which an injury or **ill health** (**3.8**) (regardless of severity) or fatality occurred, or could have occurred

NOTE 1 An accident is an incident which has given rise to injury, ill health or fatality.

NOTE 2 An incident where no injury, ill health, or fatality occurs may also be referred to as a "near-miss", "near-hit", "close call" or "dangerous occurrence".

NOTE 3 An emergency situation (see **4.4.7**) is a particular type of incident.

3.10
interested party

person or group, inside or outside the **workplace** (**3.23**), concerned with or affected by the **OH&S performance** (**3.15**) of an **organization** (**3.17**)

3.11
nonconformity

non-fulfilment of a requirement

[ISO 9000:2005, **3.6.2**; ISO 14001, **3.15**]

NOTE   A nonconformity can be any deviation from:

   - relevant work standards, practices, procedures, legal requirements, etc.

   - **OH&S management system** (**3.13**) requirements.

3.12
occupational health and safety (OH&S)

conditions and factors that affect, or could affect, the health and safety of employees or other workers (including temporary workers and contractor personnel), visitors, or any other person in the **workplace** (**3.23**)

NOTE   Organizations can be subject to legal requirements for the health and safety of persons beyond the immediate workplace, or who are exposed to the workplace activities

3.13
OH&S management system

part of an **organization's** (**3.17**) management system used to develop and implement its **OH&S policy** (**3.16**) and manage its **OH&S risks** (**3.21**)

NOTE 1 A management system is a set of interrelated elements used to establish policy and objectives and to achieve those objectives.

NOTE 2 A management system includes organizational structure, planning activities (including for example, risk assessment and the setting of objectives), responsibilities, practices, **procedures** (**3.19**), processes and resources.

NOTE 3 Adapted from ISO 14001:2004, **3.8**.

3.14
OH&S objective

OH&S goal, in terms of **OH&S performance** (**3.15**), that an **organization** (**3.17**) sets itself to achieve
NOTE 1 Objectives should be quantified wherever practicable.

NOTE 2 **4.3.3** requires that OH&S objectives are consistent with the **OH&S policy** (**3.16**)

3.15
OH&S performance

measurable results of an **organization's** (**3.17**) management of its **OH&S risks** (**3.21**)
NOTE 1 OH&S performance measurement includes measuring the effectiveness of the organization's controls

NOTE 2 In the context of **OH&S management systems** (**3.13**), results can also be measured against the **organization's** (**3.17**) **OH&S policy** (**3.16**), **OH&S objectives** (**3.14**), and other OH&S performance requirements.

3.16
OH&S policy

overall intentions and direction of an **organization** (**3.17**) related to its **OH&S performance** (**3.15**) as formally expressed by top management
NOTE 1 The OH&S policy provides a framework for action and for the setting of **OH&S objectives** (**3.14**)

NOTE 2 Adapted from ISO 14001:2004, **3.11**.

3.17
organization

company, corporation, firm, enterprise, authority or institution, or part or combination thereof, whether incorporated or not, public or private, that has its own functions and administration
NOTE For organizations with more than one operating unit, a single operating unit may be defined as an organization.

[ISO14001:2004, **3.16**]

3.18
preventive action

action to eliminate the cause of a potential **nonconformity** (**3.11**) or other undesirable potential situation
NOTE 1 There can be more than one cause for a potential nonconformity.

NOTE 2 Preventive action is taken to prevent occurrence whereas **corrective action** (**3.4**) is taken to prevent recurrence.

[ISO 9000:2005, **3.6.4**]

3.19
procedure

specified way to carry out an activity or a process
NOTE Procedures can be documented or not.

[ISO 9000:2005, **3.4.5**]

3.20
record

document (**3.5**) stating results achieved or providing evidence of activities performed

[ISO 14001:2004, **3.20**]

3.21
risk

combination of the likelihood of an occurrence of a hazardous event or exposure(s) and the severity of injury or **ill health** (**3.8**) that can be caused by the event or exposure(s).

3.22
risk assessment

process of evaluating the **risk(s)** (**3.21**) arising from a hazard(s), taking into account the adequacy of any existing controls, and deciding whether or not the risk(s) is acceptable

3.23
workplace

any physical location in which work related activities are performed under the control of the organization

NOTE   When giving consideration to what constitutes a workplace, the **organization** (**3.17**) should take into account the OH&S effects on personnel who are, for example, travelling or in transit (e.g. driving, flying, on boats or trains), working at the premises of a client or customer, or working at home.

NOTE 1 Some reference documents use the term "risk assessment" to encompass the entire process of hazard identification, determination of risk, and the selection of appropriate risk reduction or risk control measures. OHSAS 18001 and OHSAS 18002 refer to the individual elements of this process separately and use the term "risk assessment" to refer to the second of its steps, namely the determination of risk.

NOTE 2 "Establishment" implies a level of permanency and the system should not be considered established until all its elements have been demonstrably implemented. "Maintenance" implies that, once established, the system continues to operate. This requires active effort on the part of the organization. Many systems start well but deteriorate due to lack of maintenance. Many of the elements of OHSAS 18001 (such as checking and corrective action and management review) are designed to ensure active maintenance of the system.

4   OH&S management system requirements

4.1 General requirements

OHSAS 18001 text

The organization shall establish, document, implement, maintain and continually improve an OH&S management system in accordance with the requirements of this OHSAS Standard and determine how it will fulfil these requirements.

The organization shall define and document the scope of its OH&S management system.

4.1.1 OH&S management system

This OHSAS 18001 requirement is a general statement concerning the establishment of an OH&S management system within an organization

An organization with no existing OH&S management system should determine its current position with regard to its OH&S risks by means of an initial review (see 4.1.2 for further details on initial review)

In determining how it will fulfil the requirements of OHSAS 18001 the organization should consider the conditions and factors that affect, or could affect, the health and safety of persons in its workplace, what OH&S policies it needs, and how it will manage its OH&S risks.

The level of detail and complexity of the OH&S management system, the extent of documentation and the resources devoted to it are dependent on the nature (size, structure, complexity) of an organization and its activities.

4.1.2   Initial Review

The aim of an initial review should be to consider all OH&S risks faced by the organization, as a basis for establishing the OH&S management system. An organization may wish to consider including, but not limiting itself to, the following items within its initial review:

— legislative and regulatory requirements;

— identification of the OH&S hazards and evaluation of risks faced by the organization;

— an examination of existing OH&S management practices, processes and procedures;

— an evaluation of feedback from the investigation of previous incidents, work related ill health, accidents and emergencies.

— relevant business management systems and available resources

A suitable approach to the initial review can include the use of checklists, interviews, direct inspection and measurement, results of previous management system audits or other reviews depending on the nature of the organization's activities. Where hazard identification and risk assessment processes already exist, they should be reviewed for adequacy against the requirements of OHSAS 18001.

It is emphasized that an initial review is not a substitute for the implementation of the structured systematic approach to hazard identification, risk assessment and determining controls given in 4.3.1.

4.1.3 Scope of the OH&S management system

The scope of the OH&S management system should define how, where and what the OH&S management system applies to within the organization.

The scope should be defined and documented so that it is clear and takes account of the definition of "workplace" (see 3.23) and "OH&S" (see 3.12).

An organization has the freedom and flexibility to choose to implement OHSAS 18001 with respect to the entire organization, or to specific operating units or activities of the organization, consistent with its definition of its workplace.

Care should be taken in defining the scope of the OH&S management system. The scope should not be limited so as to exclude an operation or activity that can impact on the OH&S of an organization's employees and other persons under its control in the workplace.

4.2 OH&S policy

OHSAS 18001 text

Top management shall define and authorise the organization's OH&S policy and ensure that within the defined scope of its OH&S management system it:

> a) is appropriate to the nature and scale of the organization's OH&S risks;

> b) includes a commitment to prevention of injury and ill health and continual improvement in OH&S management and OH&S performance;

> c) includes a commitment to at least comply with applicable legal requirements and with other requirements to which the organization subscribes that relate to its OH&S hazards;

> d) provides the framework for setting and reviewing OH&S objectives;

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e) is documented, implemented and maintained;

f) is communicated to all persons working under the control of the organization with the intent that they are made aware of their individual OH&S obligations;

g) is available to interested parties; and

h) is reviewed periodically to ensure that it remains relevant and appropriate to the organization.

Top management should demonstrate the leadership and commitment necessary for the OH&S management system to be successful and to achieve improved OH&S performance. The ongoing, proactive, involvement of top management in developing and implementing an OH&S policy is crucial.

An OH&S policy establishes an overall sense of direction and sets the principles of action for an organization. It sets the level of OH&S responsibility and performance required throughout the organization, against which all subsequent actions will be evaluated.

The organization's OH&S policy should be appropriate to the nature and scale of its identified risks and should guide the setting of objectives. In order to be appropriate, the OH&S policy should:

— be consistent with a vision of the organization's future, and

— be realistic, neither overstating the nature of the risks the organization faces, nor trivializing them.

The policy is required to include statements about the commitment of an organization to:

— the prevention of injury and ill health

— continual improvement in OH&S management

— continual improvement in OH&S performance

— compliance with applicable legal requirements and

— compliance with other requirements to which the organization subscribes

The responsibility for defining and authorizing the OH&S policy rests with the organization's top management. The OH&S policy can be linked with other policy documents of the organization and should be consistent with the organization's overall business policies and with its policies for other management disciplines e.g. quality management or environmental management.

The OH&S policy should be communicated to all persons working under the control of the organization in order to assist them to understand:

— what management is committed to

— what they are individually required to do,

by:

— demonstrating the commitment of top management and the organization to OH&S

— increasing awareness of the commitments made in the policy statement

— explaining why the OH&S system is established and is maintained

— guiding individuals in understanding their OH&S accountabilities and responsibilities (see 4.4.2)

In communicating the policy, consideration should be given as to how to create and maintain awareness in new and existing personnel under the control of the organization. Communication can be in alternative forms to the

policy statement itself, such as rules, directives and procedures, and may therefore only include sections of the policy, pertinent to the individual.

Account should be taken of diversity in the workplace, literacy levels, language skills etc.

Any individual or group (either internal or external) concerned with or affected by the OH&S performance of the organization will be interested in the OH&S policy. It is for the organization to determine how it wishes to make the policy available to such interested parties, e.g. through publication on a web site, or by providing printed copies on request.

In developing its OH&S policy, an organisation should consider:

— its mission, vision, core values and beliefs

— co-ordination with other policies

— the needs of persons working under the control of the organisation

— the OH&S hazards of the organization;

— legal and other requirements to which the organisation subscribes that relate to its OH&S hazards;

— historical and current OH&S performance by the organization;

— opportunities and needs for continual improvement and the prevention of injury and ill health;

— the views of interested parties.

— what is needed to establish realistic and achievable objectives

The OH&S policy should be reviewed periodically (see 4.6) to ensure that it remains relevant and appropriate to the organization. Change is inevitable, legislation and societal expectations evolve; consequently, the organization's OH&S policy and OH&S management system need to be reviewed regularly to ensure their continuing suitability and effectiveness. If changes are introduced, these should be communicated as soon as is practicable.

4.3 Planning

4.3.1   Hazard identification, risk assessment and determining controls

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OHSAS 18001 text

The organization shall establish, implement and maintain a procedure(s) for the ongoing hazard identification, risk assessment, and determination of necessary controls.

The procedure(s) for hazard identification and risk assessment shall take into account:

  a) routine and non-routine activities;

  b) activities of all persons having access to the workplace (including contractors and visitors);

  c) human behaviour, capabilities and other human factors;

  d) identified hazards originating outside the workplace capable of adversely affecting the health and safety of persons under the control of the organization within the workplace

  e) hazards created in the vicinity of the workplace by work-related activities under the control of the organization;

   NOTE 1 It may be more appropriate for such hazards to be assessed as an environmental aspect.

  f) infrastructure, equipment and materials at the workplace, whether provided by the organization or others;

  g) changes or proposed changes in the organization, its activities, or materials;

  h) modifications to the OH&S management system, including temporary changes, and their impacts on operations, processes, and activities.

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i) any applicable legal obligations relating to risk assessment and implementation of necessary controls (see also the NOTE to **3.12**)

j) the design of work areas, processes, installations, machinery/equipment, operating procedures and work organization, including their adaptation to human capabilities

The organization's methodology for hazard identification and risk assessment shall:

a) be defined with respect to its scope, nature and timing to ensure it is proactive rather than reactive; and

b) provide for the identification, prioritization and documentation of risks, and the application of controls, as appropriate.

For the management of change, the organization shall identify the OH&S hazards and OH&S risks associated with changes in the organization, the OH&S management system, or its activities, prior to the introduction of such changes.

The organization shall ensure that the results of these assessments are considered when determining controls.

When determining controls, or considering changes to existing controls, consideration shall be given to reducing the risks according to the following hierarchy:

a) elimination;

b) substitution;

c) engineering controls;

d) signage/warnings and/or administrative controls;

e) personal protective equipment.

The organization shall document and keep the results of identification of hazards, risk assessments and determined controls up-to-date.

The organization shall ensure that the OH&S risks and determined controls are taken into account when establishing, implementing and maintaining its OH&S management system.

4.3.1.1 General

An organization will need to apply the process of hazard identification (see 3.7) and risk assessment (see 3.23) to determine the controls that are necessary to reduce the risks of injury and ill health. The overall purpose of the risk assessment process is to understand the hazards (see 3.6) that might arise in the course of the organization's activities and ensure that the risks (see 3.22) to people arising from these hazards are assessed, prioritized and controlled to a level that is acceptable (see 3.1).

This is achieved by:

— developing a methodology for hazard identification and risk assessment

— identifying hazards

— estimating the associated risk levels, taking into account the adequacy of any existing controls (it may be necessary to obtain additional data and perform further analysis in order to achieve a reasonable estimation of the risk)

— determining whether these risks are acceptable, and

— determining the appropriate risk controls, where these are found to be necessary.

The results of risk assessments enable the organization to compare risk reduction options and prioritize resources for effective risk management.

The outputs from the hazard identification, risk assessment and determining control processes should also be used in the implementation and development of other parts of the OH&S management system such as training (see 4.4.2), operational control (see 4.4.6) and measuring and monitoring (see 4.5.1).

Figure 2 provides an overview of the risk assessment process.

4.3.1.2 Developing a methodology and procedures for hazard identification and risk assessment

There is no single methodology for hazard identification and risk assessment that will suit all organizations. Hazard identification and risk assessment methodologies vary greatly across industries, ranging from simple assessments to complex quantitative analyses with extensive documentation. Individual hazards may require that different methods be used, e.g. an assessment of long term exposure to chemicals may need a different method than that taken for equipment safety or for assessing an office workstation. Each organization should choose approaches that are appropriate to its scope, nature and size, and which meet its needs in terms of detail, complexity, time, cost and availability of reliable data. Taken together, the chosen approaches should result in a comprehensive methodology for the ongoing evaluation of the organization's risks.
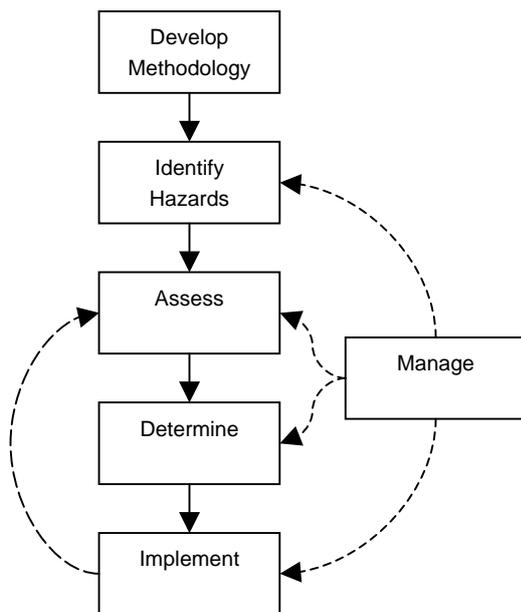
Figure 2 Overview of the risk assessment process

To be effective, the organization's procedures for hazard identification and risk assessment should take account of the following:

— hazards

— risks

— controls

— management of change

— documentation

— on-going review

To ensure consistency of application, it is recommended that these procedure(s) be documented.

OHSAS 18001 identifies 10 topics that should be taken into account in developing the procedure(s). Guidance on each of these topics can be found in sections 4.3.1.4 to 4.3.1.9.

4.3.1.3 Hazard Identification

Hazard identification involves identifying sources, situations, or acts with a potential for harm in terms of human injury or ill health, or a combination of these (see 3.6). Hazard identification should consider different types of hazards including physical, chemical, biological and psychosocial (see annex C for examples of hazards).

The organization should establish specific hazard identification tools and techniques that are relevant to the scope of its OH&S management system.

The following sources of information or inputs should be considered during the hazard identification process:

— OH&S legal and other requirements (see 4.3.2), e.g. those that prescribe how hazards should be identified ;

— OH&S policy (see 4.2);

— records of incidents (including ill health and accidents);

— reports from previous audits, assessments or reviews;

— input from employees and other interested parties (see 4.4.3);

— information from other management systems (e.g. for quality management or environmental management);

— information from employee OH&S consultations,

— process review and improvement activities in the workplace;

— information on best practice and/or typical hazards in similar organizations;

— reports of incidents and accidents that have occurred in similar organizations;

— information on the facilities, processes and activities of the organization, including the following:

- workplace design, traffic plans, site plan(s);

- process flowcharts, operations manuals and product plans;

- inventories of hazardous materials (raw materials, chemicals, wastes, products, sub-products);

- equipment specifications

- product specifications, material safety data sheets, toxicology and other OH&S data;

- monitoring data (see 4.5.1);

- occupational exposure and health assessments.

Hazard identification processes should be applied to both routine and to non-routine (e.g. periodic, occasional, or emergency) activities and situations.

Examples of types of non-routine activities and situations that should be considered during the hazard identification process include:

— plant cleaning

— maintenance,

— plant start-ups/shut-downs

— field trips

— refurbishment

— extreme weather conditions

— temporary arrangements

— emergency situations

Hazard identification should consider:

— all persons having access to the workplace (e.g. customers, visitors, service contractors, delivery personnel, as well as employees).

— the hazards and risks arising from their activities

— the hazards arising from the use of products or services supplied to the organization by them.

— their lack of familiarity with the workplace and

— their varying behaviour.

Human Factors is the application of technology to make the workplace compatible with human capabilities.

In considering human factors, the organization's hazard identification process should consider the following

— the nature of the job (workplace layout, operator information)

— the environment (heat, lighting and noise)

— human behaviour (absenteeism, fatigue, injury)

— psychological capabilities (cognition, attention)

— physiological capabilities (biomechanical, anthropometrics/physical variation of people).

For hazards originating outside the workplace, there is a practical limitation on the ability of the organization to take account of such issues in its hazard identification; however where it is clear that there is a potential hazard due to an activity taking place in the vicinity of the organization's workplace then this should be addressed.

The organisation may need or wish to give consideration to hazards created beyond the boundary of the workplace particularly where there is a legal obligation or duty of care concerning such hazards. These hazards may also be addressed through the organization's environmental management system.

For the hazard identification to be effective the organization should use a comprehensive approach that includes information from a variety of sources, especially inputs from people who have knowledge of its processes, tasks or systems.

Hazard identification techniques can include the following:

— benchmarking

— walkabouts

— interviews

— detailed inspections

— incident reviews

— monitoring and assessment of hazardous exposures (chemical and physical agents)

— workflow and process analysis

Hazard identification should be conducted by a person(s) with competence in relevant hazard identification methodologies and techniques (see 4.4.2) and appropriate knowledge of the work activity.

Checklists can be used as a reminder of what types of potential hazards to consider and to record the initial hazard identification; however, care should be taken to avoid over reliance on the use of checklists (see Annex C). Checklists should be specific to the work area, process or equipment being evaluated.

4.3.1.4 Risk assessment

4.3.1.4.1 General

Risk is the combination of the likelihood of an occurrence of a hazardous event or exposure(s) and the severity of injury or ill heath (3.8) that can be caused by the event or exposure(s) (see 3.21).

Risk assessment is a process of evaluating the risk(s) arising from a hazard(s), taking into account the adequacy of any existing controls, and deciding whether the level of risk(s) is acceptable (see 3.22).

An acceptable risk is a risk that has been reduced to a level that the organization is willing to assume with respect to its legal obligation, its OH&S policy and its OH&S objectives.

NOTE Some reference documents use the term "risk assessment" to encompass the entire process of hazard identification, determination of risk, and the selection of appropriate risk reduction or risk control measures. OHSAS 18001 and OHSAS 18002 refer to the individual elements of this process separately and use the term "risk assessment" to refer to the second of its steps, namely the determination of risk.

4.3.1.4.2 Risk assessment Inputs

Inputs to the risk assessment processes may include, but are not be limited to, information or data on the following:

— details of location(s) where work is carried out;

— the proximity and scope for hazardous interaction between activities in the workplace;

— security arrangements

— the human capabilities, behaviour, competence, training and experience of those who normally and/or occasionally carry out hazardous tasks;

— toxicological data, epidemiological data and other health related information

— the proximity of other personnel (e.g. cleaners, visitors, contractors, the public) who might be affected by hazardous work;

— details of any existing written systems of work and/or permit-to-work procedures prepared for hazardous tasks;

— manufacturers' or suppliers' instructions for operation and maintenance of equipment and facilities,

— the availability and use of control measures (e.g. for ventilation, guarding, personal protective equipment, etc);

— abnormal conditions e.g. the potential interruption of utility services such as electricity and water, or other process failures;

— environmental conditions, both external and within the workplace;

— the potential for failure of plant and machinery components and safety devices or for their degradation from exposure to the elements or process materials;

— details of access to, and adequacy/condition of emergency procedures, emergency equipment, emergency escape routes, emergency communication facilities, and external emergency support etc.;

— monitoring data related to incidents, accident and ill-health experience associated with specific work activities;

— the findings of any existing assessments relating to hazardous work activity;

— details of previous unsafe acts either by the individuals performing the activity or by others (e.g. adjacent personnel, visitors, contractors, etc.);

— the potential for a failure to induce associated failures or disabling of control measures

— the duration and frequency at which tasks are carried out;

— the accuracy and reliability of the data available for the risk assessment

— any legal or other requirements (see 4.3.2) which prescribe how the risk assessment has to be performed or what constitutes an acceptable risk, e.g. sampling methods to determine exposure, use of specific risk assessment methods, or permissible exposure levels.

Risk assessment should be conducted by a person(s) with competence in relevant risk assessment methodologies and techniques (see 4.4.2) and appropriate knowledge of the work activity.

4.3.1.4.3 Risk assessment methodologies

An organization can use different risk assessment methods as part of an overall strategy for addressing different areas or activities. When seeking to establish the likelihood of harm, the adequacy of existing control measures should be taken into account. A risk assessment should be detailed enough to identify appropriate control measures.

Some risk assessment methods are complex and appropriate to special or particularly hazardous activities. For example, risk assessment of a chemical process plant might require complex mathematical calculations of the probabilities of events that could lead to a major release of agents that might affect individuals in the workplace or the public. In many countries, sector-specific legislation specifies where this degree of complexity is required.

In many circumstances, OHS risk can be addressed using simpler methods and may be qualitative. These approaches typically involve a greater degree of judgment, since they place less reliance on quantifiable data. In some cases, these methods will serve as initial screening tools, to identify where a more detailed assessment is needed.

The risk assessment should involve consultation with workers and take into account legal and other requirements. Regulatory agency guidance should be taken into account where applicable.

The organization should consider limitations in the quality and accuracy of the data used in the risk assessments and the possible effect this could have on the resulting calculation of risk. The higher the level of uncertainty in the data the greater is the need for caution in determining whether the risk is acceptable.

Note See Annex D for a comparison of risk assessment tools and methodologies

4.3.1.4.4 Other considerations for risk assessment

Some organizations develop generic risk assessments for typical activities that may occur in several different sites or locations. Such generic assessments can be useful as a starting point for more specific assessments, but need to be customized to be appropriate to the particular situation. This approach can improve the speed and efficiency of the risk assessment process and improve the consistency of risk assessments for similar tasks.

When the organization's risk assessment method uses descriptive categories for assessing severity or likelihood of harm, they should be clearly defined, e.g. clear definitions of terms such as "likely" and "unlikely" are needed to ensure that different individuals interpret them consistently.

The organization should consider risks to sensitive populations (e.g. pregnant workers) and vulnerable groups (e.g. inexperienced workers) as well as any particular susceptibilities of the individuals involved in performing particular tasks (e.g. the ability of an individual who is colour-blind to read instructions).

The organization should evaluate how the risk assessment will take into account the number of workers that may be exposed to a particular hazard. Hazards that could cause harm to large numbers of persons should be given careful consideration even when they are less likely to occur.

Risk assessments to evaluate the harm from exposure to chemical, biological and physical agents might require measurement of exposure concentrations with appropriate instruments and sampling methods. Comparison of these concentrations should be made to applicable occupational exposure limits or standards. The organization should ensure that the risk assessment considers both the short-term and long-term consequences of exposure and the additive effects of multiple agents and exposures.

In some cases risk assessments are performed using sampling to cover a variety of situations and locations. Care should be taken to ensure that the samples used are sufficient and adequately represent all the situations and locations being assessed.

4.3.1.5 Management of Change

The management of change addresses changes that the organization introduces to the organization itself, its OH&S management system, or its activities. Changes created or introduced by external factors are required to be evaluated through on-going hazard identification and risk assessment (see 4.3.1.9)

The organization should consider hazards and potential risks associated with new processes or operations at the design stage as well as changes in the organization, existing operations, products, services or suppliers. The following are examples of conditions that should trigger a management of change process:

— new or modified technology (including software), equipment, facilities, or work environment

— new or revised procedures, work practices, design specification or standards

— different types or grades of raw materials

— significant changes to the site's organizational structure and staffing, including the use of contractors

— modifications of health and safety devices and equipment or controls.

The management of change process should include consideration of the following questions to ensure that any new or changed risks are acceptable:

— Have new hazards been created (see 4.3.1.4)?

— What are the risks associated with the new hazards?

— Have the risks from other hazards changed?

— Could the changes adversely affect existing risk controls?

— Have the most appropriate controls been chosen, bearing in mind usability, acceptability and both the immediate and long-term costs?

4.3.1.6 Determining the need for controls

Having completed a risk assessment and having taken account of existing controls the organization should be able to determine whether existing controls are adequate or need improving, or if new controls are required.

If new or improved controls are required, they should be determined in accordance with the principle of the elimination of hazards where practicable, followed in turn by risk reduction (either by reducing the likelihood of occurrence or potential severity of injury or harm), with the adoption of personal protective equipment (PPE) as a last resort.

The following provides examples of implementing the hierarchy of controls:

a) Elimination – modify a design to eliminate the hazard, e.g. mechanized instead of manual packaging.

b) Substitution – substitute a less hazardous material or reduce the system energy (e.g. lower the force, amperage, pressure, temperature, etc.)

c) Engineering Controls – install ventilation systems, machine guarding, interlocks, sound enclosures, etc.

d) Signage, warnings, and/or administrative controls – install alarms, safety procedures, equipment inspections, access controls

e) Personal protective equipment – safety glasses, hearing protection, face shields, safety harnesses and lanyards, respirators and gloves

In applying this hierarchy consideration should be given to the relative costs, risk reduction benefits, and reliability of the available options.

An organization should also take into account:

— the need for a combination of engineering and administrative controls (combining elements from the above hierarchy);

— established good practice in the control of the particular hazard under consideration

— adapting work to the individual (e.g. to take account of individual mental and physical capabilities);

— taking advantage of technical progress to improve controls;

— using measures that protect everyone (e.g. by selecting engineering controls that protect everyone in the vicinity of a hazard in preference to PPE);

— human behaviour and whether a particular control measure will be accepted and can be effectively implemented ;

— typical basic types of human failure (e.g. simple failure of a frequently repeated action, lapses of memory or attention, lack of understanding or error of judgement, and breach of rules or procedures) and ways of preventing them

— the need to introduce planned maintenance of, for example, machinery safeguards;

— the possible need for emergency/contingency arrangements where risk controls fail.

— the potential lack of familiarity with the workplace and existing controls of those not in the direct employment of the organization e.g. visitors, contractor personnel

Once the controls have been determined the organization may need to prioritize its actions to implement them. In the prioritization of actions the organization should take into account the potential for risk reduction of the planned controls. It may be preferable that actions addressing a high risk activity or offering a substantial reduction of risk could take priority over actions that have only limited risk reduction benefit.

In some cases, it may be necessary to modify work activities until risk controls are in place or apply temporary risk controls until more effective actions are completed. For example, the use of hearing protection as an interim measure until the source of noise can be eliminated, or the workplace segregated to reduce the noise levels. Temporary controls should not be regarded as a long-term substitute for more effective risk control measures.

Legal requirements, voluntary standards and codes of practice can specify appropriate controls for specific hazards. In some cases, controls will need to be capable of attaining ALARP (as low as reasonably practicable) levels of risk.

The organization should conduct ongoing monitoring to ensure that the adequacy of the controls is being maintained (see 4.5.1).

Note The term "residual risk" is often used to describe the risk that remains after controls have been implemented.

4.3.1.7 Recording and documenting the results

The organization should document and keep the results of identification of hazards, risk assessments and determined controls.

The following types of information should be recorded:

— identification of hazards;

— determination of the risks associated with the identified hazards;

— indication of the level of the risks related to each hazard,

— description of, or reference to, the measures to be taken to control the risks;

— identification of the competency requirements for implementing the controls (see 4.4.2).

When existing or intended controls are used in determining OH&S risks, these measures should be clearly documented so that the basis of the assessment will be clear when it is reviewed at a later date.

The description of measures to monitor and control risks can be included within operational control procedures (see 4.4.6). The identification of competency requirements can be included within training procedures (see 4.4.2).

More complex hazard identification, risk assessments and risk control processes may require additional documentation.

4.3.1.8 On-going review

It is a requirement that hazard identification and risk assessment be on-going. This requires the organization to consider the timing and frequency of such reviews, as affected by the following types of issues:

— the need to determine whether existing risk controls are effective and adequate

— the need to respond to the emergence of new hazards

— the need to respond to changes that the organization itself has made (see 4.3.1.5)

— the need to respond to feedback from monitoring activities, incident investigation (see 4.5.3), emergency situations or the results of testing of emergency procedures (see 4.4.7)

— changes in legislation

— external factors, e.g. emerging occupational health issues

— advances in control technologies

— changing diversity in the workforce, including contractors

— changes proposed by corrective and preventive action (see 4.5.3)

Periodic reviews can help ensure consistency across risk assessments carried out by different people at different times. Where conditions have changed and/or better risk management technologies have become available, improvements should be made as necessary.

It is not necessary to perform new risk assessments when a review can show that the existing or planned controls remain valid.

Internal audits (see 4.5.5) can provide an opportunity to check that hazard identifications, risk assessments and controls are in place and up to date. Internal audits can also be a useful opportunity to check whether the assessment reflects actual workplace conditions and practice.

4.3.2   Legal and other requirements

OHSAS 18001 text

The organization shall establish, implement and maintain a procedure(s) for identifying and accessing the legal and other OH&S requirements that are applicable to it.

The organization shall ensure that these applicable legal requirements and other requirements to which the organization subscribes are taken into account in establishing, implementing and maintaining its OH&S management system.

The organization shall keep this information up-to-date.

The organization shall communicate relevant information on legal and other requirements to persons working under the control of the organization, and other relevant interested parties.

The organization should have made a policy commitment to compliance with applicable OH&S legal and other requirements that relates to its OH&S hazards (see 4.2).

These legal requirements can take many forms, such as

— legislation, including statutes, regulations and codes of practice,

— decrees and directives

— orders issued by regulatory agencies

— permits, licences or other forms of authorization

— judgements of courts or administrative tribunals

— treaties, conventions protocols

Depending on its circumstances and needs, an organization may subscribe voluntarily to requirements, other than legal requirements, that relate to its OH&S hazards. Such other OH&S requirements, can include

— contractual conditions

— agreements with employees

— agreements with interested parties

— agreements with health authorities

— non-regulatory guidelines

— voluntary principles, best practices or codes of practice,

— public commitments of the organisation or its parent organisation, and

— corporate/company requirements

Some of these commitments or agreements may address a range of issues in addition to OH&S matters. The OH&S management system need only address such commitments or agreements to the extent that they relate to the organisation's OH&S hazards.

To meet its policy commitments, the organization should have a structured approach to ensure that the legal and other requirements can be identified, evaluated for applicability, be accessed, communicated and be kept up to date.

Depending on the nature of its OH&S hazards, operations, equipment, materials etc., an organization should seek out relevant applicable OH&S legislative or other requirements. This may be achieved through the use of knowledge within the organization or through the use of external sources such as

— internet

— libraries

— trade associations

— regulatory bodies

— legal services

— OH&S institutes

— OH&S consultants

— equipment manufacturers

— materials suppliers

— contractors

From the results of the initial review, the organization should identify the legal or other requirements that apply to:

⎯ its industry sector

⎯ its activities,

⎯ its products, processes, facilities, equipment, materials, personnel

⎯ its location

This may require the use of the same external resources that assisted in the identification of such requirements.

Having identified what is applicable, the organization's procedure needs to include information on how it can access the legal or other requirements. There is no requirement to maintain a library; it is sufficient that the organization be able to access the information when needed.

The organization's procedure should ensure that it can identify any changes that affect the applicability of legal or other requirements relevant to its OH&S hazards.

The organization's procedure needs to identify who should receive information on legal or other requirements, and ensure that relevant information is communicated to them (see 4.4.3)

Further guidance on how legal requirements should be taken into account in an organization's OH&S management system can be found throughout this OHSAS standard.

4.3.3 Objectives and programme(s)

> **OHSAS 18001 text**
>
> The organization shall establish, implement and maintain documented OH&S objectives, at relevant functions and levels within the organization.
>
> The objectives shall be measurable, where practicable, and consistent with the OH&S policy, including the commitments to the prevention of injury and ill health, to compliance with applicable legal requirements and with other requirements to which the organization subscribes, and to continual improvement.
>
> When establishing and reviewing its objectives, an organization shall take into account the legal requirements and other requirements to which the organization subscribes, and its OH&S risks. It shall also consider its technological options, its financial, operational and business requirements, and the views of relevant interested parties.
>
> The organization shall establish, implement and maintain a programme(s) for achieving its objectives. Programme(s) shall include as a minimum
>
> > a) designation of responsibility and authority for achieving objectives at relevant functions and levels of the organization; and
> >
> > b) the means and time-frame by which the objectives are to be achieved.
>
> The programme(s) shall be reviewed at regular and planned intervals, and adjusted as necessary, to ensure that the objectives are achieved.

4.3.3.1 General

In the planning process, an organization sets objectives to fulfil the commitments established in its OH&S policy.

The process of setting and reviewing objectives and implementing programmes to achieve them provides a mechanism for the organization to improve OH&S performance or to improve the OH&S management system..

4.3.3.2 Objectives

When setting objectives the organization is required to give greater emphasis on addressing legal requirements, other requirements to which it subscribes and its OH&S risks, than to other issues such as its technological options, financial, operational and business requirements or the views of interested parties. This should be clear within its objectives setting and reviewing processes.

Note 1 Not all objectives need to be focused on improvement; some objectives may be focused on maintaining current levels of OH&S performance.

Examples of types of OH&S objectives include

— reduction of risk levels

— the introduction of additional features into the OH&S management system

— the steps taken to improve existing features, or the consistency of their application

— the elimination, or the reduction in frequency, of particular undesired incident(s).

In addition to the issues required to be considered by OHSAS 18001, other issues that the organization may wish to take into consideration when setting objectives include

— policy and objectives relevant to the organization's business as a whole

— results of hazard identification, risk assessment and existing controls

— evaluations of the effectiveness of the OH&S management system (e.g. from internal audits)

— views of workers (e.g. from employee perception or satisfaction surveys)

— information from employee OH&S consultations, reviews and improvement activities in the workplace (these activities can be either reactive or proactive in nature)

— analysis of performance against previously established OH&S objectives

— past records of OH&S nonconformities and incidents

— the results of the management review (see 4.6)

— the need for and availability of resources.

During the establishment of OH&S objectives, particular regard should be given to information or data from those people most likely to be affected by individual OH&S objectives, as this can assist in ensuring that the objectives are reasonable and more widely accepted. It is also useful to consider information or data from sources external to the organization, e.g. from contractors or other interested parties.

The OH&S objectives should address both broad corporate OH&S issues and OH&S issues that are specific to individual functions and levels within the organization.

OH&S objectives may be broken down into tasks, depending on the size of the organization, the complexity of the OH&S objective and its time-scale. There should be clear links between the various levels of tasks and the OH&S objectives.

Overall OH&S Objectives should be endorsed by Top management. Specific OH&S objectives and tasks may be established by other functions as appropriate.

Not all functions and departments will need specific OH&S objectives.

Note 2 The organization should guard against setting too many overall objectives; it is preferable for it to focus on a limited set of key objectives. There should be links between the overall objectives and the specific objectives.

OH&S objectives should be reasonable and achievable, in that the organization should have the ability to reach them and monitor progress. A reasonable and achievable time scale should be defined for the realization of each OH&S objective.

Note 3 Sometimes the acronym "SMART" is applied to the establishment of objectives, i.e. that they should be specific, measurable, achievable, realistic, time-oriented.

4.3.3.3 Programme(s)

In order to achieve the objectives a programme(s) should be established. A programme is an action plan for achieving all the OH&S objectives, or individual OH&S objectives. For complex issues more formal project plans may also need to be developed as part of the programme(s).

In considering the means necessary to establish the programme(s) the organisation should examine the resources required (financial, human, infrastructure) and the tasks to be performed. The organization should assign responsibility, authority, and time-scales for each task, in order to meet the overall time-scale of the related OH&S objective.

The OH&S objectives and programme(s) should be communicated (e.g. via training and/or group briefing sessions, etc.) to relevant personnel.

Reviews of programme(s) need to be conducted regularly. This can be as part of management review, or more frequently as necessary.

4.4 Implementation and operation

4.4.1 Resources, roles, responsibility, accountability and authority

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OHSAS 18001 text

Top management shall take ultimate responsibility for OH&S and the OH&S management system.

Top management shall demonstrate its commitment by:

    a) ensuring the availability of resources essential to establish, implement, maintain and improve the OH&S management system;

        NOTE 1 Resources include human resources and specialized skills, organizational infrastructure, technology and financial resources.

    b) defining roles, allocating responsibilities and accountabilities, and delegating authorities, to facilitate effective OH&S management; roles, responsibilities, accountabilities, and authorities shall be documented and communicated.

The organization shall appoint a member(s) of top management with specific responsibility for OH&S, irrespective of other responsibilities, and with defined roles and authority for:

    a) ensuring that the OH&S management system is established, implemented and maintained in accordance with this OHSAS Standard;

    b) ensuring that reports on the performance of the OH&S management system are presented to top management for review and used as a basis for improvement of the OH&S management system.

        NOTE 2 The top management appointee (e.g. in a large organization, a Board or executive committee member) may delegate some of their duties to a subordinate management representative(s) while still retaining accountability.

The identity of the top management appointee shall be made available to all persons working under the control of the organization.

All those with management responsibility shall demonstrate their commitment to the continual improvement of OH&S performance.

The organization shall ensure that persons in the workplace take responsibility for aspects of OH&S over which they have control, including adherence to the organization's applicable OH&S requirements.

The successful implementation of an OH&S management system calls for a commitment from all persons working under the control of the organization.

This commitment should begin at the highest levels of management and requires top management to

— identify and make available, in a timely and efficient manner, all the resources needed to maintain a safe workplace

— identify who needs to do what with respect to OH&S management and make sure they are aware of their responsibilities and what they are accountable for

— ensure that those with responsibilities for OH&S management have the necessary authority to fulfil their role

— ensure there is clarity of responsibilities at the interfaces between different functions

— appoint one of its members as the person responsible for the OH&S system and reporting on its performance.

When identifying the resources needed to establish, implement and maintain the OH&S system, an organization should consider

— financial, human and other resources specific to its operations

— the technologies specific to its operations,

— infrastructure and equipment,

— information systems, and

— need for expertise and training.

Resources and their allocation should be reviewed periodically, and in conjunction with the management review to ensure their adequacy. Resources can be considered adequate if they are sufficient to carry out OH&S programmes and activities, including performance measurement and monitoring. For organizations with established OH&S management systems, the adequacy of resources can be at least partially evaluated by comparing the planned achievement of OH&S objectives with actual results. In evaluating adequacy of resources, consideration should also be given to planned changes and/or new projects or operations.

The responsibilities and authority of all persons who perform duties that are part of the OH&S management system have to be documented. These can be described and included in

— OH&S management system procedures,

— operational procedures or work station procedures

— task descriptions

— job descriptions

— induction training packages.

However the organisation is free to choose whatever format best suits its needs.

Such documentation can, among others, be required for the following people:

— top management;

— the top management appointee for OH&S

— line management at all levels in the organization;

— process operators and the general workforce;

— those managing the OH&S of contractors;

— those responsible for OH&S training;

— those responsible for equipment that is critical for OH&S;

— those responsible for managing facilities used as a workplace;

— employees with OH&S qualifications, or other OH&S specialists, within

— the organization;

⎯ employee OH&S representatives on participative/consultative forums.

The OH&S management appointee has to be a member of top management. The OH&S management appointee may be supported by other personnel who have delegated responsibilities for monitoring the overall operation of the OH&S function. However, the management appointee should be regularly informed of the performance of the system, and should retain active involvement in periodic reviews and the setting of OH&S objectives. It should be ensured that any other duties or functions assigned to the top management appointee do not conflict with the fulfilment of their OH&S responsibilities.

Line management responsibility should include ensuring that OH&S is managed within their area of operations. Where prime responsibility for OH&S matters rests with line management, the role and responsibilities of any specialist OH&S function within the organization should be appropriately defined to avoid ambiguity with respect to responsibilities and authorities. This should include arrangements to resolve any conflict between OH&S issues and productivity considerations by escalation to a higher level of management.

All managers should provide visible demonstration of their commitment to OH&S. Means of demonstration can include visiting and inspecting sites, participating in accident investigation, and providing resources in the context of corrective action, attendance and active involvement at OH&S meetings, and issuing messages of support.

However, the organization should also communicate and promote the idea that OH&S is the responsibility of everyone in the organization, not just the responsibility of those with defined OH&S management system duties.

4.4.2 Competence, Training and awareness

> **OHSAS 18001 text**
>
> The organization shall ensure that any person(s) under its control performing tasks that can impact on OH&S is (are) competent on the basis of appropriate education, training or experience, and shall retain associated records.
>
> The organization shall identify training needs associated with its OH&S risks and its OH&S management system. It shall provide training or take other action to meet these needs, evaluate the effectiveness of the training or action taken, and retain associated records.
>
> The organization shall establish, implement and maintain a procedure(s) to make persons working under its control aware of:
>
> > a) the OH&S consequences, actual or potential, of their work activities, their behaviour, and the OH&S benefits of improved personal performance;
> >
> > b) their roles and responsibilities and importance in achieving conformity to the OH&S policy and procedures and to the requirements of the OH&S management system, including emergency preparedness and response requirements (see **4.4.7**);
> >
> > c) the potential consequences of departure from specified procedures.
>
> Training procedures shall take into account differing levels of:
>
> > a) responsibility, ability, language skills and literacy; and
> >
> > b) risk.

4.4.2.1 General

Competency is needed to ensure that people are able to perform their assigned tasks safely and without negatively impacting OH&S.

Awareness is needed to ensure that people have understanding of the organization's OH&S risks and the OH&S management system.

Training is a method to achieve competency and create awareness.

Awareness, knowledge, understanding and competence can also be obtained or improved through training, education or work experience.

The organization should require that contractors are able to demonstrate that their employees have the requisite competence and/or appropriate training.

Management should determine the level of experience, competence and training necessary to ensure the capability of personnel, especially those carrying out specialized OH&S activities.

4.4.2.2 Competence

The competence of a person performing a task is based on appropriate education, training and/or experience. Competency requirements should be considered in recruiting and developing the abilities of those working under the control of the organization. The organization may need to seek external advice in defining required competencies.

When determining the level of competence required for a task, the following factors should be considered:

⸺ roles and responsibilities in the workplace; nature of the tasks to be performed, and their associated OH&S risks

⸺ the complexity and requirements of operating procedures and instructions

⸺ the results from incident investigations

⸺ legal and other requirements

⸺ individual capability (e.g. literacy, language skills etc.)

The organization should give specific consideration to the competency requirements for those who will be:

⸺ the top management appointee (see 4.4.1),

⸺ performing risk assessments (4.3.1)

⸺ performing exposure assessments (4.5.1)

⸺ performing audits (4.5.5)

⸺ performing incident investigations (4.5.3).

The organization should ensure that personnel are competent prior to permitting them to perform tasks that can impact on OH&S.

4.4.2.3 Training or other actions

The organization should consider the roles, responsibilities and authorities, in relation to the OH&S management system, in determining its training or other actions needed for those persons working under its control (including contractors, temporary staff etc.)

The training or other actions should focus on both competency requirements and the need to enhance awareness.

The organization should evaluate the effectiveness of the training or actions taken. This can be done in several ways, e.g. by written or oral examination, practical demonstration or observation, or other means that demonstrate competency and awareness.

Training records should be maintained (4.5.4).

4.4.2.4 Awareness

The organizations should make persons working under its control sufficiently knowledgeable of

⸺ emergency procedures

⸺ the consequences of their actions and behaviour in relation to OH&S risks

⸺ the benefits of improved OH&S performance

⸺ the potential consequences of departing from specified procedures

⎯ the need to conform to OH&S policies and procedures

Awareness programmes should take account of OH&S risks and individual capabilities, e.g. literacy and language skills.

Awareness programmes should be provided for contractors, temporary workers and visitors etc., according to the level of risk to which they are exposed.

4.4.3   Communication, participation and consultation

OHSAS 18001 text

4.4.3.1 Communication

With regard to its OH&S hazards and OH&S management system, the organization shall establish, implement and maintain a procedure(s) for:

      a) internal communication among the various levels and functions of the organization;

      b) communication with contractors and other visitors to the workplace;

      c) receiving, documenting and responding to relevant communications from external interested parties.

4.4.3.2 Participation and consultation

The organization shall establish, implement and maintain a procedure(s) for:

a) the participation of workers by their :

⎯ appropriate involvement in hazard identification, risk assessments and determination of controls;

⎯ appropriate involvement in incident investigation;

⎯ involvement in the development and review of OH&S policies and objectives;

⎯ consultation where there are any changes that affect their OH&S;

⎯ representation on OH&S matters.

Workers shall be informed about their participation arrangements, including who is their representative(s) on OH&S matters.

b) consultation with contractors where there are changes that affect their OH&S.

The organization shall ensure that, when appropriate, relevant external interested parties are consulted about pertinent OH&S matters.

4.4.3.1 General

Through the processes of communication and consultation, the organization should encourage participation in good OH&S practices and support for its OH&S policy and OH&S objectives from those affected by its operations or interested in its OH&S management system.

Examples of those who may be interested in or affected by an organization's OH&S management system include employees at all levels of the organization, employee representatives, temporary workers, contractors, visitors, neighbours, volunteers, emergency services (see 4.4.7), insurers and government or regulatory body inspectors.

4.4.3.2 Communication

4.4.3.2.1 Procedures for internal and external communication

The organization should develop procedures for internal communication among various functions and levels of the organization and for external communication with external interested parties.

The organization should effectively communicate information concerning its OH&S hazards and its OH&S management system to those involved in or affected by the management system in order for them to actively participate in, or support, the prevention of injury and ill health, as applicable.

When developing procedures for communication, the organization should consider the following:

⸻ the target audience for the communication and their information needs

⸻ appropriate methods and media for the communication

⸻ local culture, preferred styles for communication and available technologies for communication.

⸻ organizational complexity, structure and size

⸻ barriers to effective communication in the workplace such as illiteracy or language

⸻ legal requirements

⸻ the effectiveness of the various modes and flows of communication across all functions and levels of the organization.

⸻ evaluation of the effectiveness of the communication

Communication of OH&S issues can be communicated to employees, visitors and contractors via the following means:

⸻ OH&S briefings and meetings, induction/orientation talks, etc.

⸻ Newsletters, posters, emails, suggestion boxes/schemes, websites, notice boards containing information on OH&S issues

4.4.3.2.2 Internal communication

It is important to communicate information about OH&S risks and the OH&S management system at various levels and between various functions of the organization.

This should include:

⸻ Information related to management's commitment to the OH&S management system (e.g. programs undertaken and resources committed to improving OH&S performance)

⸻ Information concerning the identification of hazards and risks (e.g. information on process flow, materials in use, equipment specifications and observation of work practices)

⸻ Information about OH&S objectives and other continual improvement activities

⸻ Information related to incident investigation (e.g. the type of incidents that are taking place, factors that may contribute to the occurrence of incidents, results of incident investigations)

⸻ Information related to progress in eliminating OH&S hazards and risks (e.g. status reports showing progress of projects that have been completed or are underway)

⸻ Information related to operational changes that may impact on the OH&S management system.

4.4.3.2.3 Communication with contractors and other visitors

It is important to develop and maintain procedures for communicating with contractors and other visitors to the workplace. The extent of this communication should be related to the OH&S risks faced by these parties.

The organization should have arrangements in place to clearly communicate its OH&S requirements to contractors. The procedure(s) should be appropriate to the OH&S hazards and risks associated with the work to be performed. In addition to communicating performance requirements, the organization should communicate the consequences associated with nonconformity with OH&S requirements.

Contracts are often used to communicate OH&S performance requirements. Contracts may need to be supplemented with other on-site arrangements (e.g. pre-project OH&S planning meetings) to ensure that appropriate controls are implemented to protect individuals at the workplace.

The communication should include information about any operational controls (see 4.4.6) related to the specific tasks to be performed or the area where the work is to be done. This information should be communicated before the contractor comes on site and then supplemented with additional or other information (e.g. a site tour), as appropriate, when the work starts. The organization should also have procedures in place for consultation with contractors when there are changes that affect their OH&S (see 4.4.3.4).

The following could also be relevant to the organization when developing its procedure(s) for communications with contractors:

— information about the contractor's OH&S management system (e.g. established policies and procedures to address pertinent OH&S hazards)

— previous OH&S experience (e.g. OH&S performance data)

— the existence of multiple contractors at the worksite

— staffing for accomplishing OH&S activities (e.g. exposure monitoring, equipment inspections, emergency response)

— the need for alignment of the contractor's OH&S policies and practices with those of the organization and other contractors at the worksite

— the need for additional consultation and/or contractual provisions for high-risk tasks

— requirements for the assessment of conformance with agreed OH&S performance criteria

— processes for incident investigation, reporting of nonconformities and corrective action

— arrangements for day-to-day communications

For visitors (including delivery people, service providers, etc.), communication may include warning signs and security barriers as well as verbal or written communication. Information that should be communicated includes:

— general OH&S requirements for the site

— evacuation procedures and responses to alarms

— traffic controls

— access controls and escort requirements

— any personal protective equipment that needs to be worn (e.g. safety glasses).

4.4.3.2.4 Communication with external interested parties

The organization needs to have a procedure(s) in place for receiving, documenting and responding to relevant communications from external interested parties.

The organization should provide appropriate and consistent information about its OH&S hazards and its OH&S management system in accordance with its OH&S policy and applicable legal and other requirements. This may include information concerning its normal operations or potential emergency situations.

External communication procedures often include the identification of designated contact individuals. This allows for appropriate information to be communicated in a consistent manner. This can be especially important in emergency situations where regular updates may be needed and a wide range of questions may need to be answered (see 4.4.7).

4.4.3.3 Procedures for Worker Participation

The organization should have a procedure(s) in place to enable worker participation.

The procedure(s) should encourage active participation in good OH&S practices and enable the involvement of all workers in the development of the OH&S management system. The arrangements should take account of any language and literacy issues.

Workers should be informed about the arrangements that have been made for their participation and the individual who represents them on OH&S matters. OH&S representatives should have defined roles.

In addition to the requirements in OHSAS 18001, clause 4.4.3.2, the organization's procedure(s) for the involvement of workers could include:

⎯ consultation in the selection of appropriate controls, including discussion of alternative options for controlling specific hazards and their beneficial or adverse outcomes

⎯ involvement in recommending improvements to OH&S performance

⎯ consultation concerning organizational changes that affect OH&S (e.g. introduction of new or modified equipment, new chemicals or materials, new processes, procedures or work patterns)

In developing its procedure(s) for worker participation, the organization should consider potential barriers to participation and incentives to good OH&S practices.

4.4.3.4 Procedures for Consultation with Contractors and External Interested Parties

The organization should have a procedure(s) for consulting with contractors and other external interested parties, where appropriate. For example, the organization may need to consult with regulatory agencies concerning certain OH&S matters (e.g. applicability and interpretation of OH&S legal requirements), or with emergency services (see 4.4.7).

In considering the need for consultation with contractors on changes that may effect their OH&S, the organization should take account of the following:

⎯ new or unfamiliar hazards (including those that may be introduced by the contractor)

⎯ re-organization

⎯ new or amended controls

⎯ changes in materials, equipment, exposures etc.

⎯ changes in emergency arrangements

⎯ changes in legal or other requirements

For consultation with external parties, the organization should give consideration to factors such as:

⎯ changes in emergency arrangements

⎯ hazards that may impact neighbours, or hazards from neighbours

⎯ changes in legal or other requirements

4.4.4   Documentation

OHSAS 18001 text

The OH&S management system documentation shall include:

    a) the OH&S policy and objectives;

    b) description of the scope of the OH&S management system;

    c) description of the main elements of the OH&S management system and their interaction, and reference to related documents;

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d) documents, including records, required by this OHSAS Standard; and

e) documents, including records, determined by the organization to be necessary to ensure the effective planning, operation and control of processes that relate to the management of its OH&S risks.

NOTE   It is important that documentation is proportional to the level of complexity, hazards and risks concerned and is kept to the minimum required for effectiveness and efficiency.

The organization should document and maintain up-to-date sufficient documentation to ensure that its OH&S management system can be adequately understood and effectively and efficiently operated.

Typical inputs include the following items:

— details of the documentation and information systems the organization develops to support its OH&S management system and OH&S activities, and to fulfil the requirements of OHSAS 18001;

— responsibilities and authorities;

— information on the local environments in which documentation or information is used, and constraints that this can put on the physical nature of documentation, or the use of electronic or other media.

The organization should review its documentation and information needs for the OH&S management system, before developing the documentation necessary to support its OH&S processes.

In determining the extent of documentation required the general principle that applies is that if there is any risk that a task, through lack of a written instruction, will not be performed in the required manner then a written procedure is required. If it can be shown, for example, that if the task is performed according to common sense, no health or safety risks result, then it is clearly not necessary to have a documented procedure. If, on the other hand, there are several common-sense methods, only one of which is acceptable, then a written instruction is required.

There is no requirement to develop documentation in a particular format in order to conform to OHSAS 18001, nor is it necessary to replace existing documentation such as manuals, procedures, or work instructions where these adequately describe current arrangements. If the organization already has an established, documented OH&S management system, it can prove more convenient and effective for it to develop, for example, an overview document describing the inter-relation between its existing procedures and the requirements of OHSAS 18001.

Account should be taken of the following:

— the responsibilities and authorities of the users of the documentation and information, as this should lead to consideration of the degree of security and accessibility that can need to be imposed, particularly with electronic media, and change controls (see 4.4.5);

— the manner in which physical documentation is used, and the environment in which it is used, as this can require consideration of the format in which it is presented. Similar consideration should be given concerning the use of electronic equipment for information systems.

Records are a particular type of document. Whereas the above documents specify how safe conditions are to be achieved, records contain the history of actual events and contain the evidence that safe conditions were achieved at a particular time. Records can include specific safety plans and the results of surveys.

4.4.5   Control of documents

OHSAS 18001 text

Documents required by the OH&S management system and by this OHSAS Standard shall be controlled. Records are a special type of document and shall be controlled in accordance with the requirements given in **4.5.4**.

The organization shall establish, implement and maintain a procedure(s) to:

a) approve documents for adequacy prior to issue;

b) review and update as necessary and re-approve documents;

> c) ensure that changes and the current revision status of documents are identified;
>
> d) ensure that relevant versions of applicable documents are available at points of use;
>
> e) ensure that documents remain legible and readily identifiable;
>
> f) ensure that documents of external origin determined by the organization to be necessary for the planning and operation of the OH&S management system are identified and their distribution controlled; and
>
> g) prevent the unintended use of obsolete documents and apply suitable identification to them if they are retained for any purpose.

All documents and data containing information critical to the operation of the OH&S management system and the performance of the organization's OH&S activities, should be identified and controlled.

Typical inputs include the following items:

— details of the documentation and data systems the organization develops to support its OH&S management system and OH&S activities, and to fulfil the requirements of OHSAS 18001;

— details of responsibilities and authorities.

Written procedures should define the controls for the identification, approval, issue and removal of OH&S documentation, together with the control of OH&S data (in accordance with the requirements of **4.4.5** from OHSAS 18001 above). These procedures should clearly define the categories of documentation and data to which they apply.

Documentation and data should be available and accessible when required, under routine and non-routine conditions, including emergencies. For example this should include ensuring that up-to-date plant engineering drawings, hazardous material data sheets, procedures and instructions are available to process operators, and all who can require them in an emergency.

External reference documentation includes legislation, codes of practice, guidelines, specifications, and technical safety information such as toxicological information. The organization should ensure that it has formalised procedures for ensuring that it maintains these documents up to date. Responsibility for this task should be assigned. The person charged with this task should ensure that all persons in the organization are kept informed of any relevant changes to such information that affects their duties or working conditions.

Documents should be reviewed from time to time to ensure that they are still valid and accurate. This can be done as part of an internal audit or as a separate dedicated exercise. It can also be done as part of a review of risk assessment of processes.

Obsolete documents retained for reference can present a particular risk, and great care should be taken to ensure that they do not return back into circulation. However, it is sometimes necessary to retain obsolete documents as part of the records relating to the development or performance of the OH&S management system.

Typical outputs include the following items:

— document control procedure, including assigned responsibilities and authorities;

— document registers, master lists or indexes;

— list of controlled documentation and its location;

— archive records (some of which can need to be held in accordance with legal or other time requirements).

4.4.6   Operational control

OHSAS 18001 text

The organization shall determine those operations and activities that are associated with the identified hazard(s) where the implementation of controls is necessary to manage the OH&S risk(s). This shall include the management of change (see **4.3.1**).

For those operations and activities, the organization shall implement and maintain:

> a) operational controls, as applicable to the organization and its activities; the organization shall integrate those operational controls into its overall OH&S management system;
>
> b) controls related to purchased goods, equipment and services;
>
> c) controls related to contractors and other visitors to the workplace;
>
> d) documented procedures, to cover situations where their absence could lead to deviations from the OH&S policy and the objectives;
>
> e) stipulated operating criteria where their absence could lead to deviations from the OH&S policy and objectives.

4.4.6.1 General

Once it has gained an understanding of its OH&S hazards (4.3.1), the organization should implement the operational controls that are necessary to manage the associated risks and comply with applicable OH&S legal and other requirements. The overall goal of OH&S operational controls is to manage the OH&S risks to fulfil the OH&S policy and objectives.

Information to be considered when establishing and implementing operational controls includes:

— OH&S policy and objectives

— results of hazard identification, risk assessment, evaluation of existing controls and determination of new controls (see 4.3.1)

— management of change processes (see 4.3.1.6)

— information on existing standard operating procedures

— legal and other requirements to which the organization subscribes (see 4.3.2)

— product supply chain controls related to purchased goods, equipment and services

— feedback from participation and consultation (see 4.4.3)

— the nature of and extent to which tasks are to be performed by contractors and other external personnel

— access to the workplace by visitors, delivery personnel, service contractors, etc.

When developing operational controls, preference should be given to control options with higher reliability in preventing injury or ill health. This should start with redesign of equipment or processes to eliminate or reduce hazard(s), improved signage/warnings for hazard avoidance, improved administrative procedures and training to reduce the frequency and duration of worker exposures to inadequately controlled hazards, and lastly the use of personal protective equipment to reduce severity of injury or exposure (see 4.3.1.7).

The identified operational controls need to be implemented, evaluated on an on-going basis (4.3.1.9) to verify their effectiveness, and integrated into the overall OH&S management system.

4.4.6.2 Establishing and Implementing Operational Controls

Operational controls should be established and implemented as necessary to manage the OH&S risks to an acceptable level, for operational areas and activities e.g. purchasing, research and development, sales, services, offices, off-site work, home based working, manufacturing, transportation and maintenance. Operational controls may use a variety of different methods e.g. procedures, written work instructions, alarms and signage, and physical devices (such as barriers, access controls).

The organization should establish operational controls to eliminate, or reduce and control, the OH&S risks that could be introduced into the workplace by employees, contractors, other external personnel, members of the public and/or visitors. Operational controls may also need to take into account situations where OH&S risks extend into

public areas or areas controlled by other parties (e.g. when employees of the organization are working at a client's site). It may sometimes be necessary to consult with external parties in such circumstances.

Examples of areas in which OH&S risks typically arise, and examples of their associated control measures include:

a) General control measures

— Regular maintenance and repair of facilities, machinery and equipment to prevent unsafe conditions from developing;

— Housekeeping and maintenance of clear walkways

— Traffic management

— Provision and maintenance of workstations;

— Maintenance of the thermal environment (temperature, air quality)

— Maintenance of the ventilation systems and electrical safety systems;

— Maintenance of emergency plans

— Policies related to travel, bullying, sexual harassment, drug and alcohol abuse, etc.

— Health programs (medical surveillance programmes)

b) Performance of hazardous tasks

— Use of procedures, work instructions, or approved working methods

— Use of appropriate equipment

— Pre-qualification and/or training of personnel or contractors for hazardous tasks

— Use of permit-to-work systems, pre-approvals, or authorisations

— Procedures controlling the entry and exit of personnel to hazardous work sites

— Controls to prevent ill health

c) Use of hazardous materials

— Identification of approved inventory levels, storage locations and storage conditions;

— Conditions of use for hazardous materials

— Limitations of areas where hazardous materials can be used;

— Secure and safe storage provisions and control of access;

— Provision of and access to material safety data and other relevant information.

— Shielding of radiation sources

— Isolation of biological contaminants

— Knowledge in the use of and availability of emergency equipment (4.4.7)

d) Facilities and equipment

— Regular maintenance and repair of facilities, machinery and equipment to prevent unsafe conditions from developing;

— Housekeeping and maintenance of clear walkways, and traffic management

— Provision, control and maintenance of PPE;

— Inspection and testing of OH&S equipment such as guarding, fall arrest systems, shutdown systems, rescue equipment for confined spaces, lock-out systems, fire detection and suppression equipment, exposure monitoring devices, ventilation systems and electrical safety systems;

— Inspection and testing of material handling equipment (cranes, forklifts, hoists and other lifting devices).

e) Purchase of goods, equipment and services

— Establishment of OH&S requirements for goods, equipment and services to be purchased

— Communication of the organization's own OH&S requirements to suppliers

— Pre-approval requirements for the purchase or transport/transfer of hazardous chemicals, materials and substances;

— Pre-approval requirements and specifications for the purchase of new machinery and equipment;

— Pre-approval of procedures for the safe operation of machinery, equipment, and/or the safe handling of materials prior to their use;

— Inspection and verification of received goods, equipment and services

— Evaluation, and periodic re-evaluation, of the OH&S performance of vendors and/or suppliers;

— Approval of the design of OH&S provisions for new facilities;

— Selection and monitoring of contractors and other service providers.

f) Contractors

— Establish criteria for the selection of contractors

— Communication of the organization's own OH&S requirements to contractors

— Evaluation, monitoring and periodic re-evaluation, of the OH&S performance of contractors;

g) Other external personnel or visitors in the workplace

As the knowledge and capabilities of visitors or other external personnel vary greatly, this should be considered when developing controls. Examples may include

— Entry controls

— Establishing their knowledge and capabilities prior to permitting the use of equipment

— Provision of advice, training as necessary

— Warning signage/administrative controls

— Methods for monitoring and supervising their activities

4.4.6.3 Stipulating Operating Criteria

The organization should stipulate operating criteria where they are necessary for the prevention of injury or ill health. Operational criteria need to be specific to the organization, its operations and activities and related to its own OH&S risks, where their absence could lead to deviation from the OH&S policy and objectives.

Examples of operating criteria include:

a) For hazardous tasks

⎯ Use of specified equipment, and procedures/work instructions for its use

⎯ Competency requirements

⎯ Use of specified entry control processes and equipment

⎯ Authorities/guidelines/instructions/procedures for individual risk assessment prior to immediate commencement of the task

b) For hazardous chemicals:

⎯ Approved chemical lists

⎯ Exposure limits

⎯ Specific inventory limits

⎯ Specified storage locations and conditions

c) For task involving entry into hazardous areas:

⎯ Specification of personal protective equipment requirements

⎯ Specified conditions for entry

⎯ Health and fitness conditions

d) For tasks involving work performed by contractors:

⎯ Specification of OH&S performance criteria

⎯ Specification of competency and/or training requirements for contractor personnel

⎯ Specification/inspection of contractor provided equipment

e) For OH&S hazards to visitors

⎯ Entry controls (sign-in/sign-out, access limitations)

⎯ PPE requirements

⎯ Orientation

⎯ Emergency requirements

4.4.6.4 Maintaining Operational Controls

Operational controls should be reviewed on a periodic basis to evaluate their on-going suitability and effectiveness. Changes that are identified as necessary should be implemented (see 4.3.1).

In addition, procedures should be in place to identify circumstances where new controls and/or modifications of existing operational controls are needed. Proposed changes to existing operations should be evaluated for OH&S hazards and risks before they are implemented. When there are changes to operational controls, the organization should consider whether there are new or modified training needs (see section 4.4.2).

4.4.7 Emergency preparedness and response

OHSAS 18001 text

The organization shall establish, implement and maintain a procedure(s):

a) to identify the potential for emergency situations;

b) to respond to such emergency situations.

The organization shall respond to actual emergency situations and prevent or mitigate associated adverse OH&S consequences.

In planning its emergency response the organization shall take account of the needs of relevant interested parties, e.g. emergency services and neighbours.

The organization shall also periodically test its procedure(s) to respond to emergency situations, where practicable, involving relevant interested parties as appropriate.

The organization shall periodically review and, where necessary, revise its emergency preparedness and response procedure(s), in particular, after periodical testing and after the occurrence of emergency situations (see **4.5.3**).

4.4.7.1 General

The organization should assess the potential for emergency situations that impact on OH&S and develop a procedure(s) for an effective response(s). This may be a stand alone procedure(s) or combined with other emergency response procedure(s). The organization should periodically test its emergency preparedness and seek to improve the effectiveness of its response activities and procedure(s).

4.4.7.2 Identification of Potential Emergency Situations

Procedures to identify potential emergency situations should consider both enterprise-wide emergencies and emergencies that may be associated with specific activities, equipment or workplaces.

a) Examples of enterprise-wide emergencies include:

— fires

— explosions

— severe weather (e.g. hurricanes, floods)

— loss of utility services

— epidemic

b) Examples of emergencies associated with specific activities, equipment or workplaces include:

— loss of power to specific equipment

— failure of alarms or monitoring devices

— release of hazardous materials

— serious injuries

— traffic accidents

When identifying potential emergency situations, consideration should be given to emergencies that may occur during both normal operations and abnormal conditions (e.g. operation start-up or shut-down, construction or demolition activities).

Emergency planning should also be reviewed as a part of the on-going management of change. Changes in operations may introduce new potential emergencies or necessitate that changes be made to emergency response procedures. For example, changes in facility layout may impact emergency evacuation routes.

The organization should identify and assess how emergency situations will impact all persons within and/or in the immediate vicinity of workplaces controlled by the organization. This could include employees, temporary workers,

contract employees, visitors, neighbours or other members of the public. The organization should also consider potential impacts on emergency services (e.g. fire-fighters).

Information that should be considered in identifying potential emergency situations includes the following:

— the results of hazard identification and risk assessment activities performed during the OH&S planning process (see Section 4.3.1)

— legal requirements

— the organization's previous accident, incident and emergency experience

— emergency situations that have occurred in similar organization's

— information related to accident and/or incident investigation's posted on the websites of regulatory agencies or emergency response agencies

4.4.7.3 Establishing and Implementing Emergency Response Procedures

A procedure(s) for responding to emergency situations should be developed so that the adverse OH&S consequences of an emergency event can be minimized. Emergency preparedness and response procedures should also take into account applicable legal and other requirements.

The emergency procedure(s) should be clear and concise to facilitate their use in emergency situations. They also need to be readily available for use by emergency services. Emergency procedure(s) that are stored on a computer or by other electronic means may not be readily available in the event of a power failure, so paper copies of emergencies procedure(s) may need to be maintained in readily accessible locations.

In developing emergency response procedure(s), consideration should be taken account of the existence and/or capability of the following:

— inventory and location of hazardous materials storage

— numbers and locations of people

— critical systems that may impact on OH&S

— emergency training provision

— detection and emergency control measures

— medical equipment, fist aid kits etc.

— alternate control systems, e.g. containment systems

— back-up control systems or monitors

— monitoring systems for hazardous materials

— fire detection and suppression systems

— emergency power sources

— availability of local emergency services and details of any emergency response arrangements currently in place

— legal and other requirements

— previous emergency response experience

When the organization determines that external services may be needed for emergency response (e.g. hazardous material contractors, external testing laboratories), pre-approved (contractual) arrangements should be put in place. Particular attention should be paid to staffing levels, response schedules and emergency service limitations.

Emergency response procedure(s) should define the roles, responsibilities and authorities of those with emergency response duties, especially those with an assigned duty to provide an immediate response. These personnel should be involved in the development of the emergency procedure(s) to ensure they are fully aware of the type and scope of emergencies that they may be expected to handle, as well as the arrangements needed for coordination. Emergency service personnel should be provided with the information required to facilitate their involvement in response activities.

Emergency response procedures should give consideration to the following:

⎯ identification of potential emergency situations and locations

⎯ details of the actions to be taken by personnel during the emergency (including actions to be taken by staff working off-site, by contractors and visitors)

⎯ evacuation procedures

⎯ responsibility, authority and duties of personnel with specific response roles during the emergency (e.g. fire-wardens, first-aid staff, spill clean-up specialists)

⎯ interface and communication with emergency services

⎯ communication with employees (both on-site and off-site), regulatory agencies and other interested parties (e.g. family, neighbours, local community, media)

⎯ information necessary for undertaking the emergency response (plant layout drawings, identification and location of emergency response equipment, identification and location of hazardous materials, utility shut-off locations, contact information for emergency response providers)

4.4.7.4 Emergency response equipment

The organizations should determine and review its emergency response equipment and material needs.

Emergency response equipment and materials may be needed to perform a variety of functions during an emergency such as evacuation, leak detection, fire suppression, chemical/biological/radiological monitoring, communication, isolation, containment, shelter, personal protection, decontamination, and medical evaluation and treatment.

Equipment should be available in sufficient quantity and stored in locations where it is readily accessible, protected from being damaged and secure. This equipment should be inspected and/or tested at regular intervals to ensure that it will be operational in an emergency situation.

Special attention should be paid to equipment and materials used to protect emergency response personnel. Individuals should be informed of the limitations of personal protective devices and trained in their proper use.

The type, quantity and storage location(s) for emergency equipment and supplies should be evaluated as a part of the review and testing of emergency procedures.

4.4.7.5 Emergency response training

Personnel should be trained in how to initiate the emergency response and evacuation procedures (see 4.4.2).

The organization should identify the training needed for personnel who are assigned emergency response duties and ensure that this training is received. Emergency response personnel should remain competent to carry out their assigned activities.

The need for re-training or other communications should be identified when modifications are made that impact on the emergency response.

4.4.7.6 Periodic testing of emergency procedures

Periodic testing of emergency procedures is necessary to ensure that the organization and external emergency services can appropriately respond to emergency situations and prevent or mitigate associated OH&S consequences.

Note OHSAS 18001, clause 4.4.7, specifies that emergency response procedures shall be periodically tested "where practicable". This means that such testing has to be performed if it is capable of being done.

Testing of emergency procedures should involve external emergency services providers to develop an effective working relationship. This will improve communication and cooperation during an emergency.

Emergency drills can be used to evaluate the organization's emergency procedures, equipment and training, as well as increase overall awareness of emergency response protocols. Internal parties (e.g. workers) and external parties (e.g. fire department personnel) may be included in the drills to increase awareness and understanding of emergency response procedures.

The organization should maintain records of emergency drills. The type of information that should be recorded includes a description of the situation and scope of the drill, a timeline of events and actions and observations of any significant achievements or problems.   This information should be reviewed with the drill planners and participants to share feedback and recommendations for improvement.

4.4.7.7 Reviewing and revising emergency procedures

Reviews of emergency preparedness and response procedure(s) should be done periodically. Examples of when this should be done are:

⸺ on a schedule defined by the organization

⸺ during management reviews

⸺ following organizational changes

⸺ as a result of management of change, corrective action, or preventive action (see 4.5.2)

⸺ following an event that activated the emergency response procedures

⸺ following drills or tests that identified deficiencies in the emergency response

⸺ following changes to legal or regulatory requirements

⸺ following external changes impacting the emergency response

When changes are made in emergency preparedness and response procedure(s), these changes should be communicated to the personnel and functions that are impacted by the change; their associated training needs should also be evaluated.

4.5 Checking

4.5.1   Performance measurement and monitoring

OHSAS 18001 text

The organization shall establish, implement and maintain a procedure(s) to monitor and measure OH&S performance on a regular basis. This procedure(s) shall provide for:

> a) both qualitative and quantitative measures, appropriate to the needs of the organization;
>
> b) monitoring of the extent to which the organization's OH&S objectives are met;
>
> c) monitoring the effectiveness of controls (for health as well as for safety);
>
> d) proactive measures of performance that monitor conformance with the OH&S programme(s), controls and operational criteria;
>
> e) reactive measures of performance that monitor ill health, incidents (including accidents, near-misses, etc.), and other historical evidence of deficient OH&S performance;
>
> f) recording of data and results of monitoring and measurement sufficient to facilitate subsequent corrective action and preventive action analysis.

If equipment is required to monitor or measure performance, the organization shall establish and maintain procedures for the calibration and maintenance of such equipment, as appropriate. Records

of calibration and maintenance activities and results shall be retained.

4.5.1.1 General

An organization should have a systematic approach for measuring and monitoring its OH&S performance on a regular basis. Monitoring involves collecting information, such as measurements or observations, over time. Measurements can be either quantitative or qualitative. Monitoring and measurements can serve many purposes in an OH&S management system, such as

— tracking progress on meeting policy commitments, achieving objectives and targets, and continual improvement,

— monitoring exposures to determine whether applicable legal requirements or other requirements to which the organization subscribes have been met,

— monitoring incidents, injuries and ill health

— providing data to evaluate the effectiveness of operational controls, or to evaluate the need to modify or introduce new controls (see 4.3.1),

— providing data to proactively and reactively measure the organization's OH&S performance, and

— providing data to evaluate the performance of the OH&S management system.

To achieve these purposes, an organization should plan what will be measured, where and when it should be measured, and what methods should be used. To focus resources on the most important measurements, the organization should identify the key characteristics of processes and activities that can be measured and that provide the most useful information.

The results of measurement and monitoring should be analysed and used to identify both successes and areas requiring correction or improvement.

The organization's measuring and monitoring should be primarily focussed on proactive measures of performance, but may also need to use reactive measures.

a) Examples of proactive measures include:

— the effective use of the results of workplace safety tours or inspections

— evaluation of the effectiveness of OH&S training

— use of OH&S behaviour based observation

— use of perception surveys to evaluate OH&S culture

— the effective use of the results of internal and external audits

— completion of legally required and other inspections as scheduled

— the extent to which programme(s) (see 4.3.3) have been implemented

— the effectiveness of the employee participation process

— the use of health screening

— exposure modelling and monitoring

— benchmarking against good OH&S practices

— work activity assessments

b) Examples of reactive measures include:

⎯ monitoring of ill health

⎯ occurrences and rates of incidents and ill health

⎯ lost time incident rates, lost time accident rates

4.5.1.2 Calibration and maintenance of monitoring and measuring equipment

Measurements should be conducted using suitable methods for assuring the validity of results.

When necessary to ensure valid results, measuring equipment should be calibrated, verified or validated as appropriate, against measurement standards traceable to international or national measurement standards. If no such standards exist, the basis used for calibration should be recorded. The equipment should be maintained at specified intervals, or prior to use,

The calibration status of the equipment should be available to the user.

Measurements should be performed by competent personnel (see 4.4.2), using suitable quality control techniques. Written procedures for conducting measurement and monitoring can help to provide consistency in measurements and enhance the reliability of data produced.

Verification is a quality process used to evaluate whether or not a product, service, or system complies with a regulation, specification, or conditions imposed at the start of a development phase. Verification can be performed during development, commissioning, or production. This is often an internal process.

Validation is the process of establishing documented evidence that provides a high degree of assurance that a product, service, or system accomplishes its intended requirements. This often involves acceptance and suitability with external customers.

It is sometimes said that validation ensures that 'you built the right thing' and verification ensures that 'you built it right'. 'Building the right thing' refers back to the user's needs, while 'building it right' checks that the documented development process was followed. In some contexts, it is required to have written requirements for both as well as formal procedures or protocols for determining compliance.

Note ISO 9000:2005 defines verification and validation as:

3.8.4
verification

confirmation, through the provision of **objective evidence** (3.8.1), that specified **requirements** (3.1.2) have been fulfilled

3.8.5
validation

confirmation, through the provision of **objective evidence** (3.8.1), that the **requirements** (3.1.2) for a specific intended use or application have been fulfilled

4.5.2 Evaluation of compliance

OHSAS 18001 text

4.5.2.1 Consistent with its commitment to compliance [see **4.2**c)], the organization shall establish, implement and maintain a procedure(s) for periodically evaluating compliance with applicable legal requirements (see **4.3.2**).

The organization shall keep records of the results of the periodic evaluations.

NOTE   The frequency of periodic evaluation may vary for differing legal requirements.

4.5.2.2 The organization shall evaluate compliance with other requirements to which it subscribes (see **4.3.2)**. The organization may wish to combine this evaluation with the evaluation of legal compliance referred to in **4.5.2.1** or to establish a separate procedure(s).

The organization shall keep records of the results of the periodic evaluations.

NOTE   The frequency of periodic evaluation may vary for differing other requirements to which the organization subscribes.

An organisation should establish, implement and maintain a procedure for periodically evaluating its compliance with the legal or other requirements that are applicable to its OH&S risks, as part of its commitment to compliance. The organisation should record the results of this evaluation.

 A variety of inputs can be used to assess compliance, including:

— audits

— the results of regulatory inspections

— analysis of legal and other requirements

— reviews of documents and /or records of incidents and risk assessments

— facility inspections

— interviews

— project or work reviews

— analysis of test results from monitoring and testing

— facility tours and / or direct observations

An organisation should establish a methodology for evaluation of compliance that suits its size, type and complexity. A compliance evaluation can encompass multiple legal requirements or a single requirement. The frequency of evaluations can be affected by factors such as past compliance performance or specific legal requirements. While all legal requirements have to be evaluated, the organization may need to evaluate individual requirements at different times or at different frequencies, or as appropriate.

A compliance evaluation programme can be integrated with other assessment activities. These can include management system audits, environmental audits or quality assurance checks.

Similarly, an organisation should periodically evaluate its compliance with other requirements to which it subscribes (for further guidance on other requirements, see 4.3.2). An organization may wish to establish a separate process for conducting such evaluations or it may choose to combine these evaluations with its evaluations of compliance with legal requirements (see above), its management review process (4.6) or other evaluation processes.

The results of the periodic evaluations of legal or other requirements should be recorded.

4.5.3   Incident investigation, nonconformity, corrective action and preventive action

4.5.3.1   Incident investigation

OHSAS 18001 text

The organization shall establish, implement and maintain a procedure(s) to record, investigate and analyze incidents in order to:

     a) determine underlying OH&S deficiencies and other factors that might be causing or contributing to the occurrence of incidents;

     b) identify the need for corrective action;

     c) identify opportunities for preventive action;

     d) identify opportunities for continual improvement;

     e) communicate the results of such investigations.

The investigations shall be performed in a timely manner.

Any identified need for corrective action or opportunities for preventive action shall be dealt with in accordance with the relevant parts of **4.5.3.2**.

The results of incident investigations shall be documented and maintained.

A good system for incident investigation offers the organisation

⎯ one of the best opportunities for preventing recurrence of incidents and identifying opportunities for proactive improvement and

⎯ to raise the overall OH&S awareness in the workplace.

Organizations should have a procedure(s) for reporting, investigating and analyzing incidents. The purpose of the procedure(s) is to provide a structured, proportionate and timely approach to identifying and dealing with the underlying (root) cause(s) of the incident.

All incidents should be investigated. The organization should seek to prevent the under-reporting of incidents. In determining the nature of the investigation, the resources needed, and the priority to be given to investigation of an incident, account should be taken of

⎯ the actual outcome and consequences of the incident, and

⎯ the frequency of such incidents and their potential consequences.

In developing those procedures the organisation should give consideration to the following

⎯ the need for a common understanding and acceptance of what constitutes an "incident" (see 3.9) and the benefits that may be gained from its investigation.

⎯ that reporting should capture all types of incidents, including major and minor accidents, emergencies, near misses, instances of ill health and those that take place over a period of time (e.g. exposure).

⎯ defining the reporting requirements appropriate for different types of incident

⎯ the need to meet any legal requirements relating to the reporting and investigation of incidents, e.g. maintenance of a register of accidents.

⎯ defining the assignment of authority and responsibilities for reporting of incidents and subsequent investigations.

⎯ the need for immediate action to deal with imminent risks

— the need for investigation to be impartial and objective.

— the need to focus on identifying causal factors.

— the benefits of involving those with knowledge of the incident

— defining the requirements for the conduct and recording of the various phases of the investigation process such as

- gathering facts and collecting evidence, in a timely manner

- analyzing the results

- communicating the need for any identified corrective action and /or preventive action

- provision of feedback into the processes for hazard identification, risk assessment, emergency response, OH&S performance measurement and monitoring and management review.

Those assigned to conduct incident investigations should be competent (see 4.4.2)

The outputs from the incident investigation processes should address items a) to e) in OHSAS 18001 4.5.3.1

4.5.3.2   Nonconformity, corrective action and preventive action

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OHSAS 18001 text

The organization shall establish, implement and maintain a procedure(s) for dealing with actual and potential nonconformity(ies) and for taking corrective action and preventive action. The procedure(s) shall define requirements for:

    a) identifying and correcting nonconformity(ies) and taking action(s) to mitigate their OH&S consequences;

    b) investigating nonconformity(ies), determining their cause(s) and taking actions in order to avoid their recurrence;

    c) evaluating the need for action(s) to prevent nonconformity(ies) and implementing appropriate actions designed to avoid their occurrence;

    d) recording and communicating the results of corrective action(s) and preventive action(s) taken; and

    e) reviewing the effectiveness of corrective action(s) and preventive action(s) taken.

Where the corrective action and preventive action identifies new or changed hazards or the need for new or changed controls, the procedure shall require that the proposed actions shall be taken through a risk assessment prior to implementation.

Any corrective action or preventive action taken to eliminate the causes of actual and potential nonconformity(ies) shall be appropriate to the magnitude of problems and commensurate with the OH&S risk(s) encountered.

The organization shall ensure that any necessary changes arising from corrective action and preventive action are made to the OH&S management system documentation.

For an OH&S management system to be effective on an ongoing basis, an organization should have a procedure(s) for identifying actual and potential nonconformity(-ies), making corrections and taking corrective and preventive action, preferably preventing problems before they occur. Nonconformity is a non fulfilment of a requirement. A requirement may be stated in relation to the management system or in terms of OH&S performance. Examples of typical nonconformities can include:

a) for OH&S management system performance

— failure to establish OH&S objectives

— failure to define responsibilities required by an OH&S management system, such as responsibilities for achieving objectives

— failure to periodically evaluate compliance with legal requirements

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— failure to meet training needs

— documentation being out of date or being inappropriate

— failure to carry out communications

b) for OH&S performance

— incident reduction objectives are not achieved

— noise reduction targets are not achieved

— operating criteria (i.e. permitted limits) are not met

Inputs into corrective action and preventive action can be identified from:

— the results of incident investigations

— the results of internal or external audits

— the results of the periodic evaluations of compliance

— the results of performance monitoring

— the results of exposure assessments

Identification of nonconformities should be made part of individual responsibilities (see 4.4.1), with individuals closest to the work being encouraged to report potential or actual problems.

Corrective actions are actions taken to eliminate the underlying (root) cause(s) of identified nonconformity or incidents in order to prevent recurrence.

Once nonconformity is identified, it should be investigated to determine the cause(s), so that corrective action can be focused on the appropriate part of the system. An organisation should consider what actions need to be taken to address the problem, and/or what changes need to be made to correct the situation. The response and timing of such actions should be appropriate to the nature and scale of the nonconformity and the OH&S risk

Preventive actions are actions taken to eliminate the underlying (root) cause(s) of the potential nonconformity or potential undesirable situations, in order to prevent occurrence.

When a potential problem is identified but no actual nonconformity exists, preventive action should be taken using a similar approach as for corrective action. Potential problems can be identified using methods such as extrapolating corrective action of actual nonconformities to other applicable areas where similar activities occur, or hazard analysis.

The organization should ensure that:

— proposed actions are reviewed through risk assessments prior to implementation, where appropriate

— corrective actions and preventive actions are implemented

— the results of corrective action and preventive action are recorded and communicated

— there is follow-up to review their effectiveness.

4.5.4   Control of records

OHSAS 18001 text

The organization shall establish and maintain records as necessary to demonstrate conformity to the requirements of its OH&S management system and of this OHSAS Standard, and the results achieved.

> The organization shall establish, implement and maintain a procedure(s) for the identification, storage, protection, retrieval, retention and disposal of records.
>
> Records shall be and remain legible, identifiable and traceable.

Records should be maintained to demonstrate that the OH&S management system operates effectively.

Records that can demonstrate conformance to the requirements include:

— records of the evaluation of compliance with legal and other requirements

— hazard identification, risk assessment and risk control records.

— records of the monitoring of OH&S performance

— calibration and maintenance records for equipment used to monitor OH&S performance

— records of corrective action and preventive action

— OH&S inspection reports;

— training records;

— OH&S management system audit reports;

— participation and consultation reports;

— incident reports;

— incident follow-up reports;

— OH&S meeting minutes ;

— health surveillance reports;

— PPE maintenance records;

— reports of emergency response drills;

— management reviews

In determining the appropriate controls for records the organization should take into account any applicable legal requirements, confidentiality issues (particularly those relating to personnel), storage/access/disposal/back-up requirements, and the use of electronic records.

4.5.5 Internal audit

> **OHSAS 18001 text**
>
> The organization shall ensure that internal audits of the OH&S management system are conducted at planned intervals to:
>
>   a) determine whether the OH&S management system:
>
>   1) conforms to planned arrangements for OH&S management including the requirements of this OHSAS Standard; and
>
>   2) has been properly implemented and is maintained; and
>
>   3) is effective in meeting the organization's policy and objectives;
>
>   b) provide information on the results of audits to management.

Audit programme(s) shall be planned, established, implemented and maintained by the organization, based on the results of risk assessments of the organization's activities, and the results of previous audits.

Audit procedure(s) shall be established, implemented and maintained that address:

> a) the responsibilities, competencies, and requirements for planning and conducting audits, reporting results and retaining associated records; and

> b) the determination of audit criteria, scope, frequency and methods.

Selection of auditors and conduct of audits shall ensure objectivity and the impartiality of the audit process.

4.5.5.1 General

Audits can be used by an organization to review and evaluate the performance and effectiveness of its OH&S management system.

An internal OH&S management system audit programme should be established to review the conformity of its OH&S management system to OHSAS 18001.

Planned OH&S management system audits should be carried out by personnel from within the organization and/or by external personnel selected by the organization, to establish whether the OH&S management system has been properly implemented and maintained. Individuals selected to conduct the OH&S management system audits should be competent and be selected in a manner to ensure objectivity and impartially in the audit process.

NOTE: The general principles and methodology described in ISO 19011 are appropriate to OH&S management system auditing.

4.5.5.2 Establishing an audit programme

The implementation of an internal audit programme should address the following:

— Communication of the audit programme to relevant parties

— Establishing and maintaining a process for the selection of auditors and audit teams

— Providing the resources necessary for the audit programme

— Planning, coordinating and scheduling audits

— Ensuring that audit procedures are established implemented and maintained

— Ensuring the control of records of audit activities

— Ensuring audit follow-up and the reporting of audit results

Note: The above has been adapted from ISO 19011, clause 5.4

The audit programme should be based on the results of risk assessments of the organization's activities and the results of previous audits. The results of the risk assessments (see 4.3.1) should guide the organization in determining the frequency of audits of particular activities, areas or functions and what parts of the management system should be given attention.

The OH&S management system audits should cover all areas and activities within the scope of the OH&S management system (see 4.1), and assess conformity to OHSAS 18001.

The frequency and coverage of OH&S management system audits should be related to the risks associated with the failure of the various elements of the OH&S management system, available data on the performance of the OH&S management system, the output from management reviews, and the extent to which the OH&S management system or the organizational activities are subject to change.

4.5.5.3 Internal audit activities

OH&S management system audits should be conducted according to the audit programme. Additional audits may need to be performed:

— as changes occur in the hazards, or risk assessments,

— if the results of previous audits,

— the occurrence of incidents,

— or other circumstances (e.g. due to re-organization),

indicate that they are necessary.

An internal audit typically consists of the following activities:

— initiating the audit

— conducting document review and preparing for the audit

— conducting the audit

— preparing and communicating the audit report

— completing the audit and conducting audit follow-up

Note The above has been adapted from ISO 19011, clause 6.1

4.5.5.4 Initiating an audit

The following activities are typically done to initiate an audit:

— selection of appropriate auditors and audit team for the audit taking into account the need for objectivity and impartiality

— defining the audit objectives, scope and criteria for the audit

— determining the audit methodology

— confirming audit arrangements with the auditee and other individuals who will take part in the audit

Determination of any applicable workplace OH&S rules is an important part of this process. In some cases, auditors may need additional training and/or may be required to conform to additional requirements (e.g. the wearing of specialized personal protective equipment).

4.5.5.5 Conducting document reviews and preparing for an audit

Prior to conducting an audit, the auditors should review appropriate OH&S management system documents and records, and the results of prior audits. This information should be used by the organization in making its plans for an audit.

The documentation that may be reviewed includes:

— information on roles responsibilities and authorities (e.g. an organization chart);

— OH&S policy statement;

— OH&S objectives and programme(s);

— OH&S management system audit procedures;

— OH&S procedures and work instructions;

— hazard identification, risk assessment and risk control results;

— applicable legal and other requirements;

— incident, nonconformity and corrective action reports

The amount of documentation to be reviewed and the detail provided in the plans for the audit should reflect the scope and complexity of the audit. The plans for the audit should cover the following:

— audit objectives

— audit criteria

— audit methodology

— audit scope and /or location

— audit schedule

— roles and responsibilities of the various audit parties

The audit planning information may be contained in more than one document.   The focus should be on providing adequate information to implement the audit.

If other parties need to be included in the audit process (e.g. employee representatives), this should be included in the plans for the audit.

4.5.5.6 Conducting an audit

The following activities are typically part of the audit:

— communication during the audit

— collecting and verifying information

— generating audit findings and conclusions

Depending on the scope and complexity of the audit, it may be necessary to make formal arrangements for communication during the audit. The audit team should communicate:

— the plans for the audit,

— the status of the audit activities,

— any concerns raised during the audit and

— the audit conclusions,

to the auditee in a timely manner. Communication of the plans for the audit may be achieved through the use of an opening meeting. Audit findings and conclusions should be reported during a closing meeting.

During the audit, information relevant to the audit objectives, scope and criteria should be collected by appropriate methods.   The methods will depend on the nature of the OH&S management system audit being undertaken.

The audit should ensure that a representative sample of the important activities is audited and that relevant personnel are interviewed. This may include interviews of personnel such as individual workers, employee representatives and relevant external personnel, e.g. contractors.

Relevant documentation, records and results should be examined.

Wherever possible, checks should be built into the OH&S management system audit procedures to help to avoid misinterpretation or misapplication of collected data, information, or other records.

Audit evidence should be evaluated against the audit criteria to generate the audit findings and conclusions. Audit evidence should be verifiable. Audit evidence should be recorded.

4.5.5.7 Preparing and communicating the audit report

The results of the OH&S management system audits should be recorded and reported to management, in a timely manner.

The content of the final OH&S management system audit report should be clear, precise and complete. It should be dated and signed by the auditor.

It should contain the following elements:

— the audit objectives and scope;

— information about the plans of the audit (identification of the members of the auditing team and the audited representatives, dates of audit and identification of the areas subject to audit);

— the identification of reference documents used to conduct the audit (e.g. OHSAS 18001, OH&S procedures);

— details of identified nonconformities;

— information relating to the ability of the OH&S management system to achieve the stated OH&S policy and objectives;

— a listing of recipients for the audit report.

The results of OH&S management system audits should be communicated to all relevant parties as soon as possible, to allow corrective actions to be taken.

Confidentiality should be considered when communicating the information contained within the OH&S management system audit reports.

4.5.5.8 Completing the audit and conducting audit follow-up

A review of the results should be carried out and effective corrective action taken, where necessary.

Follow-up monitoring of prior audit findings should be established to ensure that identified nonconformities are addressed.

Top management should consider OH&S management system audit findings and recommendations, and take appropriate action as necessary within an appropriate time.

4.5.5.9 Selection of auditors

One or more persons may undertake OH&S management system audits. A team approach can widen involvement and improve cooperation. A team approach can also allow a wider range of specialist skills to be utilized.

In order to maintain independence, objectivity and impartiality, auditors should not audit their own work.

Auditors need to understand their task and be competent to carry it out. They need to have the experience and knowledge of the relevant standards and systems they are auditing to enable them to evaluate performance and identify deficiencies. Auditors should be familiar with the OH&S hazards and risks of the areas they are auditing and any applicable legal or other requirements.

4.6 Management review

OHSAS 18001 text

Top management shall review the organization's OH&S management system, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness. Reviews shall include assessing opportunities for improvement and the need for changes to the OH&S management system, including the OH&S policy and OH&S objectives. Records of the management reviews shall be retained.

Input to management reviews shall include:

> a) results of internal audits and evaluations of compliance with applicable legal requirements and with other requirements to which the organization subscribes;
>
> b) the results of participation and consultation (see **4.4.3**);
>
> c) relevant communication(s) from external interested parties, including complaints;
>
> d) the OH&S performance of the organization;
>
> e) the extent to which objectives have been met;
>
> f) status of incident investigations, corrective actions and preventive actions;
>
> g) follow-up actions from previous management reviews;
>
> h) changing circumstances, including developments in legal and other requirements related to OH&S; and
>
> i) recommendations for improvement.

The outputs from management reviews shall be consistent with the organization's commitment to continual improvement and shall include any decisions and actions related to possible changes to:

> a) OH&S performance;
>
> b) OH&S policy and objectives ;
>
> c) resources; and
>
> d) other elements of the OH&S management system.

Relevant outputs from management review shall be made available for communication and consultation (see 4.4.3).

Management reviews should focus on the overall performance of the OH&S management system and not on specific details, since these should be handled by the normal means within the OH&S management system.

Management reviews should be carried out by top management, on a regular basis (e.g. quarterly or annually). Management reviews can be carried out by meetings or other communication means. Partial management reviews of the performance of the OH&S management system should be held at more frequent intervals, if required. Different reviews may address different elements of the overall management review.

The management appointee (see 4.4.1) should report to the management reviews on the overall performance of the OH&S management system

In planning for a management review, consideration should be given to the following:

— the topics to be addressed;

— who needs to participate to ensure the effectiveness of the review (managers, OH&S specialist advisors, other personnel);

— responsibilities of individual participants in respect of the review;

— information to be brought to the review

— how the review will be recorded.

In addition to the inputs for management review required by OHSAS 18001, the following inputs may also need to be considered:

— reports of emergencies (actual or exercises);

— reports from the management appointee on the overall performance of the system;

— reports from individual line managers on the effectiveness of the system locally;

⎯ reports of on-going hazard identification, risk assessment and risk control processes.

In addition to the outputs required by OHSAS 18001, details of the following issues may also need to be considered:

⎯ the adequacy of current hazard identification, risk assessment and risk control processes;

⎯ current levels of risk and the effectiveness of existing control measures;

⎯ adequacy of resources (financial, personnel, material);

⎯ the state of preparedness for emergency;

⎯ an assessment of the effects of foreseeable changes to legislation or technology.

Depending on the decisions and actions agreed at a review, the nature and types of communication of the results of the review, and to whom they will be communicated, should also be considered.

Annex A
(informative)
Correspondence between OHSAS 18001:2007, ISO 14001:2004 and ISO 9001:2000

Table A.1 – Correspondence between OHSAS 18001:2007, ISO 14001:2004 and ISO 9001:2000

OHSAS 18001:2007		ISO 14001:2004		ISO 9001:2000	
—	Introduction	—	Introduction	**0** **0.1** **0.2** **0.3** **0.4**	Introduction General Process approach Relationship with ISO 9004 Compatibility with other management systems
1	Scope	**1**	Scope	**1** **1.1** **1.2**	Scope General Application
2	Normative references	**2**	Normative references	**2**	Normative reference
3	Terms and definitions	**3**	Terms and definitions	**3**	Terms and definitions
4	OH&S management system elements (title only)	**4**	Environmental management system requirements (title only)	**4**	Quality management system (title only)
4.1	General requirements	**4.1**	General requirements	**4.1** **5.5** **5.5.1**	General requirements Responsibility, authority and communication Responsibility and authority
4.2	OH&S policy	**4.2**	Environmental policy	**5.1** **5.3** **8.5.1**	Management commitment Quality policy Continual improvement
4.3	Planning (title only)	**4.3**	Planning (title only)	**5.4**	Planning (title only)
4.3.1	Hazard identification, risk assessment and determining controls	**4.3.1**	Environmental aspects	**5.2** **7.2.1** **7.2.2**	Customer focus Determination of requirements related to the product Review of requirements related to the product
4.3.2	Legal and other requirements	**4.3.2**	Legal and other requirements	**5.2** **7.2.1**	Customer focus Determination of requirements related to the product
4.3.3	Objectives and programme(s)	**4.3.3**	Objectives, targets and programme(s)	**5.4.1** **5.4.2** **8.5.1**	Quality objectives Quality management system planning Continual improvement

Table A.1 – Correspondence between OHSAS 18001:2007, ISO 14001:2004 and ISO 9001:2000
(continued)

OHSAS 18001:2007		ISO 14001:2004		ISO 9001:2000	
4.4	Implementation and operation (title only)	**4.4**	Implementation and operation (title only)	**7**	Product realization (title only)
4.4.1	Resources, roles, responsibility, accountability and authority	**4.4.1**	Resources, roles, responsibility and authority	**5.1** **5.5.1** **5.5.2** **6.1** **6.3**	Management commitment Responsibility and authority Management representative Provision of resources Infrastructure
4.4.2	Competence, training and awareness	**4.4.2**	Competence, training and awareness	**6.2.1** **6.2.2**	(Human resources) General Competence, awareness and training
4.4.3	Communication, participation and consultation	**4.4.3**	Communication	**5.5.3** **7.2.3**	Internal communication Customer communication
4.4.4	Documentation	**4.4.4**	Documentation	**4.2.1**	(Documentation requirements) General
4.4.5	Control of documents	**4.4.5**	Control of documents	**4.2.3**	Control of documents
4.4.6	Operational control	**4.4.6**	Operational control	**7.1** **7.2** **7.2.1** **7.2.2** **7.3.1** **7.3.2** **7.3.3** **7.3.4** **7.3.5** **7.3.6** **7.3.7** **7.4.1** **7.4.2** **7.4.3** **7.5** **7.5.1** **7.5.2** **7.5.5**	Planning of product realization Customer-related processes Determination of requirements related to the product Review of requirements related to the product Design and development planning Design and development inputs Design and development outputs Design and development review Design and development verification Design and development validation Control of design and development changes Purchasing process Purchasing information Verification of purchased product Production and service provision Control of production and service provision Validation of processes for production and service provision Preservation of product

Table A.1 – Correspondence between OHSAS 18001:2007, ISO 14001:2004 and ISO 9001:2000
(continued)

OHSAS 18001:2007		ISO 14001:2004		ISO 9001:2000	
4.4.7	Emergency preparedness and response	**4.4.7**	Emergency preparedness and response	**8.3**	Control of nonconforming product
4.5	Checking (title only)	**4.5**	Checking (title only)	**8**	Measurement, analysis and improvement (title only)
4.5.1	Performance measurement and monitoring	**4.5.1**	Monitoring and measurement	**7.6**	Control of monitoring and measuring devices (Measurement, analysis and improvement)
				8.1	General
				8.2.3	Monitoring and measurement of processes
				8.2.4	Monitoring and measurement of product
				8.4	Analysis of data
4.5.2	Evaluation of compliance	**4.5.2**	Evaluation of compliance	**8.2.3**	Monitoring and measurement of processes
				8.2.4	Monitoring and measurement of product
4.5.3	Incident investigation, nonconformity, corrective action and preventive action (title only)	--	--	--	--
4.5.3.1	Incident investigation	--	--	--	--
4.5.3.2	Nonconformity, corrective and preventive action	**4.5.3**	Nonconformity, corrective action and preventive action	**8.3**	Control of nonconforming product
				8.4	Analysis of data
				8.5.2	Corrective action
				8.5.3	Preventive action
4.5.4	Control of records	**4.5.4**	Control of records	**4.2.4**	Control of records
4.5.5	Internal audit	**4.5.5**	Internal audit	**8.2.2**	Internal audit
4.6	Management review	**4.6**	Management review	**5.1**	Management commitment
				5.6	Management review (title only)
				5.6.1	General
				5.6.2	Review input
				5.6.3	Review output
				8.5.1	Continual improvement

Annex B
Annex A (informative)
Correspondence between OHSAS 18001, OHSAS 18002, and the ILO-OSH:2001 Guidelines on occupational safety and health management systems

B.1 Introduction

This annex identifies the key differences between the International Labour Organization's ILO-OSH Guidelines and the OHSAS documents, and provides a comparative assessment of their differing requirements.

It should be noted that ***no areas of significant difference have been identified***.

Consequently, those organizations that have implemented an OH&S management system that is compliant with OHSAS 18001 may be reassured that their OH&S management system will also be compatible with the recommendations of the ILO-OSH Guidelines.

A correspondence table between the individual clauses of the OHSAS documents and those of the ILO-OSH Guidelines is given in **B.4**.

B.2 Overview

The two prime objectives of the ILO-OSH Guidelines are:

> a) to assist countries in the establishment of a national framework for occupational health and safety management systems; and

> b) to provide guidance to individual organizations regarding the integration of OH&S elements into their overall policy and management arrangements.

OHSAS 18001 specifies requirements for OH&S management systems, to enable organizations to control risks and to improve their OH&S performance. OHSAS 18002 gives guidance on the implementation of OHSAS 18001. The OHSAS documents are therefore comparable with Section 3 of the ILO-OSH Guidelines "*The occupational safety and health management system in the organization*".

B.3 Detailed analysis of Section 3 of the ILO-OSH Guidelines against the OHSAS documents

B.3.1 Scope

The focus of the ILO-OSH Guidelines is on workers. The focus of the OHSAS Standards, towards persons under the control of the organization and other interested parties, is broader.

B.3.2 OH&S management system models

The models picturing the main elements of an OH&S management system are directly equivalent between the ILO-OSH Guidelines and the OHSAS documents.

B.3.3 ILO-OSH Section 3.2, Worker participation

In the ILO-OSH *Guidelines*, subsection **3.2.4** recommends that: *"The employer should ensure as appropriate, the establishment and efficient functioning of a health and safety committee and the recognition of workers health and safety representatives in accordance with national laws and practice"*.

OHSAS 18001, **4.4.3**, requires the organization to establish a procedure for communication, participation and consultation, and to involve a wider spectrum of interested parties (due to the broader scope of application of the document).

B.3.4 ILO-OSH Section 3.3, Responsibility and accountability

The ILO-OSH *Guidelines* recommend in **3.3.1(h)** the establishment of prevention and health promotion programmes. There is no requirement in the OHSAS Standards for this.

B.3.5 ILO-OSH Section 3.4, Competence and training

The recommendation of the ILO-OSH *Guidelines* sub-section **3.4.4**: *"Training should be provided to all participants at no cost and should take place during working hours if possible"*, is not a requirement of the OHSAS documents.

B.3.6 ILO-OSH Section 3.10.4, Procurement

The ILO-OSH Guidelines emphasize that safety and health requirements of the organization should be incorporated into purchasing and leasing specifications.

The OHSAS Standards address procurement by their requirements for risk assessment, identification of legal requirements and the establishment of operational controls.

B.3.7 ILO-OSH Section 3.10.5, Contracting

The ILO-OSH Guidelines define the steps to be taken to ensure that the organization's safety and health requirements are applied to contractors (they also provide a summary of the actions needed to ensure that they are). This is implicit in OHSAS.

B.3.8 ILO-OSH Section 3.12, Investigation of work related injuries, ill health, diseases and incidents, and their impact on safety and health performance

The ILO-OSH Guidelines do not require corrective actions or preventive actions to be reviewed through the risk assessment process prior to implementation, as they are in OHSAS 18001, **4.5.3.2**.

B.3.9 ILO-OSH Section 3.13, Audit

The ILO-OSH Guidelines recommend consultation on the selection of auditors. In contrast, the OHSAS documents require audit personnel to be impartial and objective.

B.3.10 ILO-OSH Section 3.16, Continual improvement

This is a separate subclause in the ILO-OSH Guidelines. It details arrangements that should be taken into account for the achievement of continual improvement. Similar arrangements are detailed throughout the OHSAS documents, which consequently do not have a corresponding clause.

B.4 Correspondence between the clauses of the OHSAS documents and the clauses of the ILO-OSH Guidelines

Table B.1 — Correspondence between the clauses of the OHSAS documents and the clauses of the ILO-OSH Guidelines

Clause	OHSAS	Clause	ILO-OSH Guidelines
	Introduction	—	Introduction
		3.0	The occupational safety and health management system in the organization
	Foreword	—	The International Labour Organization
1	Scope	1.0	Objectives
2	Reference publications	—	Bibliography
3	Terms and definitions	—	Glossary
4	OH&S management system elements (title only)	—	—
4.1	General requirements	3.0	The occupational safety and health management system in the organization
4.2	OH&S policy	3.1	Occupational safety and health policy
		3.16	Continual improvement
4.3	Planning (title only)	—	Planning and implementation (title only)
4.3.1	Hazard identification, risk assessment and determining controls	3.7	Initial review
		3.8	System planning, development and implementation
		3.10	Hazard prevention
		3.10.1	Prevention and control measures
		3.10.2	Management of change
		3.10.5	Contracting
4.3.2	Legal and other requirements	3.7.2	(Initial review)
		3.10.1.2	(Prevention and control measures)
4.3.3	Objectives and programme(s)	3.8	System planning, development and implementation
		3.9	Occupational safety and health objectives
		3.16	Continual improvement
4.4	Implementation and operation (title only)	—	—

Table B.1 — Correspondence between the clauses of the OHSAS documents and the clauses of the ILO-OSH Guidelines *(continued)*

Clause	OHSAS	Clause	ILO-OSH Guidelines
4.4.1	Resources, roles, responsibility, accountability and authority	**3.3**	Responsibility and accountability
		3.8	System planning, development and implementation
		3.16	Continual improvement
4.4.2	Competence, training and awareness	**3.4**	Competence and training
4.4.3	Communication, participation and consultation	**3.2**	Worker participation
		3.6	Communication
4.4.4	Documentation	**3.5**	Occupational safety and health management system documentation
4.4.5	Control of documents	**3.5**	Occupational safety and health management system documentation
4.4.6	Operational control	**3.10.2**	Management of change
		3.10.4	Procurement
		3.10.5	Contracting
4.4.7	Emergency preparedness and response	**3.10.3**	Emergency prevention, preparedness and response
4.5	Checking (title only)	—	Evaluation (title only)
4.5.1	Performance measurement and monitoring	**3.11**	Performance monitoring and measurement
4.5.2	Evaluation of compliance	—	—
4.5.3	Incident investigation, nonconformity, corrective action and preventive action (title only)	—	—
4.5.3.1	Incident investigation	**3.12**	Investigation of work related injuries, ill health, diseases and incidents and their impact on safety and health performance
		3.16	Continual improvement
4.5.3.2	Nonconformity, corrective and preventive action	**3.15**	Preventive and corrective action
4.5.4	Control of records	**3.5**	Occupational safety and health management system documentation
4.5.5	Internal audit	**3.13**	Audit
4.6	Management review	**3.14**	Management review
		3.16	Continual improvement

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Annex C
Examples of items for inclusion in a hazard identification checklist

C.1 Physical hazards

— slippery or uneven ground leading to slips/falls on a level;

— work at heights, leading to falls (linked to factors such as the distance of the fall);

— falls from height of objects such as tools or materials, leading to impacts on passers by;

— inadequate space to work, such as low headroom, leading to head impacts;

— poor ergonomics (e.g. bad posture or repetitive work), leading to acute or chronic health effects;

— manual lifting/handling of materials, etc., with the potential for back, hand and foot injuries (linked to factors such as the characteristics of the load;

— trappings, entanglement, burns and other hazards arising from equipment;

— transport hazards, either on the road or on premises/sites, while travelling or as a pedestrian (linked to the speed and external features of vehicles and the road environment);

— fire and explosion (linked to the amount and nature of flammable material);

— harmful energy sources such as electricity, radiation, noise or vibration (linked to the amount of energy involved);

— stored energy, which can be released quickly and cause physical harm to the body (linked to the amount of energy);

— frequently repeated tasks, which can lead to upper limb disorders (linked to the duration of the tasks);

— unsuitable thermal environment, which can lead to hypothermia or heat stress;

— violence to staff, leading to physical harm (linked to the nature of the perpetrators);

— ionising radiation (from x- or gamma-ray machines or radioactive substances);

— non-ionising radiation (e.g. light, magnetic, radio-waves).

C.2 Chemical hazards

— substances hazardous to health or safety due to inhalation [such as carbon monoxide (CO) – the hazard would be linked to the amount of CO];

— contact with, or being absorbed through, the body (such as acids – the hazard would be linked to the strength and amount of the acid);

— ingestion (i.e., entering the body via the mouth), such as lead paint;

— stored materials that degrade over time (such as oxidizers);

— lack of oxygen.

C.3 Biological hazards

— biological agents, such as bacteria or viruses that might be:

— inhaled;

— transmitted via contact with bodily fluids (including needle-stick injuries)

— the hazard would be linked to the nature of the pathogen;

— ingested (e.g. via contaminated food products).

C.4 Psychological hazards

— excessive workload, lack of communication or control, workplace physical environment, leading to stress (linked to the magnitude and duration of stressors);

— physical violence, bullying or intimidation within the workplace, leading to stress;

— involvement in a major incident, leading to post traumatic stress – the hazard would depend on the nature of the incident.

Annex D
Comparison of risk assessment tools and methodologies

Tool	Strengths	Weaknesses
Checklists/ Questionnaires	• Easy to use • Use can prevent "missing something" in initial evaluations	• Often limited to yes/no answers • Only as good as the checklist used – it may not take into account unique situations
Risk Matrices	• Relatively easy to use • Provides visual representation • Doesn't require use of numbers	• Only 2-dimensional – can't take into account multiple factors impacting risk • Pre-determined answer may not be appropriate to the situation
Ranking / Voting Tables	• Relatively easy to use • Good for capturing expert opinion • Allows for consideration of multiple risk factors (e.g. severity, probability, detectability, data uncertainty)	• Requires use of numbers • If the quality of the data is not good, the results will be poor • Can result in comparison of incomparable risks
Failure modes and effects analysis (FMEA); Hazard and operability studies (HAZOP)	• Good for detailed analysis of processes • Allows input of technical data	• Needs expertise to use • Needs numerical data to input into analysis • Takes resources (time & money) • Better for risks associated with equipment than those associated with human factors
Exposure Assessment Strategy	• Good for analysis of data associated with hazardous materials and environments	• Needs expertise to use • Needs numerical data to input
Computer Modelling	• If you have the data, computer modelling can give good answers • Generally uses numerical inputs and is less subjective	• Significant time and money needed to develop and validate • Potential for over-reliance on the results, without questioning their validity

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