

A.1 General

The explanatory information given in this annex is intended to prevent misinterpretation of the requirements contained in this document. While this information addresses and is consistent with these requirements, it is not intended to add to, subtract from, or in any way modify them.

The requirements in this document need to be viewed from a systems perspective and should not be taken in isolation, i.e. there can be an interrelationship between the requirements in one clause with the requirements in other clauses.

A.2 Normative references

There are no normative references in this document.

Users can refer to the documents listed in the Bibliography for further information on OH&S guidelines and other ISO management system standards.

A.3 Terms and definitions

In addition to the terms and definitions given in clause 3, and in order to avoid misunderstanding, clarifications of selected concepts are provided below.

a) "Continual" indicates duration that occurs over a period of time, but with intervals of interruption (unlike "continuous", which indicates duration without interruption). "Continual" is therefore the appropriate word to use in the context of improvement.

b) The word "consider" means it is necessary to think about but can be excluded, whereas "take into account" means it is necessary to think about but cannot be excluded.

c) The words "appropriate" and "applicable" are not interchangeable. "Appropriate" means suitable (for, to) and implies some degree of freedom, while "applicable" means relevant or possible to apply and implies that if it can be done, it shall be done.

d) This document uses the term "interested party"; the term "stakeholder" is a synonym as it represents the same concept.

e) The word "ensure" means the responsibility can be delegated, but not the accountability to make sure that an action is performed.

A.1 总则

在本附件中给出的解释性信息旨在防止对本标准所包含的要求的错误理解。这些信息的阐述与标准要求保持一致，无意增加、扣除或以任何方式修改本标准的要求。

本标准所包含的要求需要从系统而不应当孤立地考虑，即本标准不同条款之间的要求是相关的。

A.2 规范性引用文件

本标准无规范性引用文件。

读者通过本标准参考文献中列出的文件，获得与职业健康与安全指南和其他ISO管理体系标准有关的其他信息。

A.3 术语和定义

除了条款3给出的术语和定义外，为防止错误理解，下面给出了概念选取的说明。

a) “continual（持续）”指发生在一段时期内的持续，但可能有间断；而“continuous（连续）”指不间断的持续，因此宜用“持续”来描述改进。

b) “consider（考虑）”一词意指有必要须考虑，但可拒绝考虑；而“take into account（必须考虑）”意指有必要考虑，而且不能拒绝考虑。

c) “appropriate（合适的）”与“applicable（适用的）”不得互换。“合适的”意指适合于或适于...的，意味着某种程度的自由，可以用，也可以不用；而“适用的”意指相关的或有可能应用的，且意味着如果能够做到，就须要做。

d) 本标准使用了术语“interested party（相关方）”；“stakeholder（利益相关方）”是其同义词，代表了相同概念。

e) “ensure（确保）”一词意指职责可以授权，但责任不能授权。

f) "Documented information" is used to include both documents and records. This document uses the phrase "retain documented information as evidence of ..." to mean records, and "shall be maintained as documented information" to mean documents, including procedures. The phrase "to retain documented information as evidence of .. ." is not intended to require that the information retained will meet legal evidentiary requirements. Instead, it is intended to define the type of records that need to be retained.

g) Activities that are "under the shared control of the organization" are activities for which the organization shares control over the means or methods, or shares direction of the work performed with respect to its OH&S performance, consistent with its legal requirements and other requirements.

Organizations can be subject to requirements related to the OH&S management system that mandate the use of specific terms and their meaning. If these other terms are used, conformity to this document is still required.

A.4 Context of the organization

A.4.1 Understanding the organization and its context

An understanding of the context of an organization is used to establish, implement, maintain and continually improve its OH&S management system. Internal and external issues can be positive or negative and include conditions, characteristics or changing circumstances that can affect the OH&S management system, for example:

a) external issues, such as:

- 1) the cultural, social, political, legal, financial, technological, economic and natural surroundings and market competition, whether international, national, regional or local;
- 2) introduction of new competitors, contractors, subcontractors, suppliers, partners and providers, new technologies, new laws and the emergence of new occupations;
- 3) new knowledge on products and their effect on health and safety;
- 4) key drivers and trends relevant to the industry or sector having impact on the organization;

f) "文件化信息" 指文件和记录。本标准现使用短语“保留 (retain) 文件化信息作为.....的证据”来表示记录, 用短语“作为文件化信息来 (maintained) 保持”来表示包括程序在内的文件。短语“保留 (retain) 文件化信息作为.....的证据”并未需要记录满足法律证据的要求, 而只是明确了需要保留记录的类型。

g) “在组织的共同控制之下” 的活动是指受相同的手段和方法控制的组织活动, 或与组织职业健康与安全绩效方向一致, 且符合法律法规要求和其他要求的组织活动。

组织在与职业健康与安全管理体系相关需求的表述中, 应使用特定的术语及其含义。如果需要使用其他术语, 则仍然需要符合本标准的要求。

A.4 组织的环境

A.4.1 理解组织及其环境

理解组织的环境是为了建立、实施、维持和持续改进其职业健康与安全管理体系。组织的环境包括组织的现状、特征及变化的环境等可能对组织的职业健康与安全管理体系产生正面或负面影响的内、外部问题, 如:

a) 外部问题, 如:

- 1)文化、社会、政治、法律、财务、技术、经济、自然以及竞争环境 (包括国际的、国内的、区域的和地方的);
- 2) 引进新的竞争者、承包商、分包商、供应商、合作伙伴和供货商、新技术、新法律以及新职业的出现;
- 3) 产品的新知识及其对健康与安全的影响;
- 4)与产业或行业相关的主要驱动因素和趋势对组织产生的影响;

<p>5) relationships with, as well as perceptions and values of, its external interested parties;</p> <p>6) changes in relation to any of the above;</p> <p>b) internal issues, such as:</p> <p>1) governance, organizational structure, roles and accountabilities;</p> <p>2) policies, objectives and the strategies that are in place to achieve them;</p> <p>3) the capabilities, understood in terms of resources, knowledge and competence (e.g. capital, time, human resources, processes, systems and technologies);</p> <p>4) information systems, information flows and decision-making processes (both formal and informal);</p> <p>5) introduction of new products, materials, services, tools, software, premises and equipment;</p> <p>6) relationships with, as well as perceptions and values of, workers;</p> <p>7) the culture in the organization;</p> <p>8) standards, guidelines and models adopted by the organization;</p> <p>9) the form and extent of contractual relationships, including, for example, outsourced activities;</p> <p>10) working time arrangements;</p> <p>11) working conditions;</p> <p>12) changes in relation to any of the above.</p>	<p>5) 与外部相关方的关系, 以及对其看法和价值观的关系;</p> <p>6) 与上述任何一项有关的变化;</p> <p>b) 内部问题, 如:</p> <p>1) 治理机制、组织结构、岗位和责任;</p> <p>2) 方针、目标以及实现这些反正和目标的战略;</p> <p>3) 从资源、知识和能力(如资本、时间、人力资源、过程、系统和技术)对能力理解;</p> <p>4) 信息系统、信息流和决策过程(正式的和非正式的)</p> <p>5) 新产品、材料、服务、工具、软件、场地和设备的应用;</p> <p>6) 与员工的关系, 以及他们的观念和价值观;</p> <p>7) 组织的文化;</p> <p>8) 组织采用的标准、准则和模式;</p> <p>9) 合同关系的形式和范围, 包括, 例如外包活动;</p> <p>10) 工作时间安排;</p> <p>10) 工作条件;</p> <p>12) 与上述任何一项有关的变化。</p>
<p>A.4.2 Understanding the needs and expectations of workers and other interested parties Interested parties, in addition to workers, can include:</p> <p>a) legal and regulatory authorities(local, regional, state/provincial, national or international);</p> <p>b) parent organizations;</p> <p>c) suppliers, contractors and subcontractors;</p> <p>d) workers' representatives;</p> <p>e) workers' organizations (trade unions) and employers' organizations;</p> <p>f) owners, shareholders, clients, visitors, local community and neighbours of the organization and the general public;</p> <p>g) customers, medical and other community services, media, academia, business associations and non-governmental organizations(NGOs);</p> <p>h) occupational health and safety organizations, occupational safety and health-care professionals.</p> <p>Some needs and expectations are mandatory; for example, because they have been incorporated into</p>	<p>A4.2 理解员工和其他相关方的需求和期望, 除了员工, 可以考虑:</p> <p>a) 法律和监管机构(地方、地区、州/省、国家或国际);</p> <p>b) 母公司(组织);</p> <p>c) 供应商、承包商和分包商;</p> <p>d) 职工代表;</p> <p>e) 员工组织(工会)和雇主组织;</p> <p>f) 业主、股东、客户、访客、当地社区和组织的邻居和公众;</p> <p>g) 客户、医疗和其他社区服务、媒体、学术界、商业协会和非政府组织的非政府组织;</p> <p>h) 职业健康和安全组织、职业安全和卫生保健专业人员。</p> <p>某些需求和期望是强制性的; 例如, 已经被纳入了法律和法规的需求和期望。组织也可以决定自愿同</p>

laws and regulations. The organization may also decide to voluntarily agree to, or adopt, other needs and expectations (e.g. subscribing to a voluntary initiative). Once the organization adopts them, they are addressed when planning and establishing the OH&S management system.

A.4.3 Determining the scope of the OH&S management system

An organization has the freedom and flexibility to define the boundaries and applicability of the OH&S management system. The boundaries and applicability may include the whole organization, or a specific part(s) of the organization, provided that the top management of that part of the organization has its own functions, responsibilities and authorities for establishing an OH&S management system.

The credibility of the organization's OH&S management system will depend upon the choice of the boundaries. The scope should not be used to exclude activities, products and services that have or can impact the organization's OH&S performance, or to evade its legal requirements and other requirements. The scope is a factual and representative statement of the organization's operations included within its OH&S management system boundaries that should not mislead interested parties.

A.4.4 OH&S management system

The organization retains the authority, accountability and autonomy to decide how it will fulfil the requirements of this document, including the level of detail and extent to which it:

- a) establishes one or more processes to have confidence that they are controlled, carried out as planned and achieve the intended outcomes of the OH&S management system;
- b) integrates requirements of the OH&S management system into its various business processes (e.g. design and development, procurement, human resources, sales and marketing).

If this document is implemented for a specific part(s) of an organization, the policies and processes developed by other parts of the organization can be used to meet the requirements of this document,

意或采纳其他需求和期望（例如，订阅自愿倡议）。一旦组织决定采用它们，就要求在策划和建立职业健康与安全管理体系时满足这些需求和期望。

A.4.3确定职业健康与安全管理体系的范围

组织可以自由和灵活地界定职业健康与安全管理体系的边界和适用性。确定边界和适用性可能包括整个组织，或者如果组织特定部分的最高管理者有职能、职责和权限建立职业健康安全管理体系，则也可以包括该特定部分。

组织职业健康与安全管理体系的可信度取决于边界的选择。职业健康与安全管理体系范围的选择不应用来排除那些具有或可能影响组织职业健康与安全绩效的活动、产品和服务，或逃避其法律法规要求和其他要求。范围是对职业健康与安全管理体系边界内的组织运行情况的事实和代表性的陈述，不应该误导相关方。

A.4.4 职业健康与安全管理体系

组织有权力、责任和自主权决定如何满足本标准的要求，包括以下事项的详略程度：

- a) 建立一个或多个过程，确信过程在控，按照策划实施，并获得了职业健康与安全管理体系预期的结果；
- b) 将职业健康与安全管理体系的需求整合到各种业务过程（如设计和开发、采购、人力资源、销售和市场营销等）中。

如果本标准针对组织内一个或多个特定部分实施，则可采用组织其他部分制定的方针、过程来满足本标准的要求，只要它们适用于那个（些）特定部分。这方面的例子包括企业职业健康与安全方针、教育、

provided that they are applicable to the specific part[s] that will be subject to them and that they conform to the requirements of this document. Examples include corporate OH&S policies, education, training and competency programmes, and procurement controls.

A.5 Leadership and worker participation

A.5.1 Leadership and commitment

Leadership and commitment from the organization's top management, including awareness, responsiveness, active support and feedback, are critical for the success of the OH&S management system and achievement of its intended outcomes; therefore, top management has specific responsibilities for which they need to be personally involved or which they need to direct.

A culture that supports an organization's OH&S management system is largely determined by top management and is the product of individual and group values, attitudes, managerial practices, perceptions, competencies and patterns of activities that determine the commitment to, and the style and proficiency of, its OH&S management system. It is characterized by, but not limited to, active participation of workers, cooperation and communications founded on mutual trust, shared perceptions of the importance of the OH&S management system by active involvement in detection of OH&S opportunities and confidence in the effectiveness of preventive and protective measures. An important way top management demonstrates leadership is by encouraging workers to report incidents, hazards, risks and opportunities and by protecting workers against reprisals, such as the threat of dismissal or disciplinary action, when they do so.

A.5.2 OH&S policy

The OH&S policy is a set of principles stated as commitments in which top management outlines the long-term direction of the organization to support and continually improve its OH&S performance. The OH&S policy provides an overall sense of direction, as well as a framework for the organization to set its objectives and take actions to achieve the intended outcomes of the OH&S management system.

培训和能力项目以及采购控制。

A.5 领导作用和员工参与

A.5.1 领导作用与承诺

领导作用和最高领导者的承诺包括意识、响应和积极支持和反馈，是职业健康与安全管理体系成功，并获得预期成效的关键；因此，组织最高领导者有责任亲自参与或指导。

一种支持组织的职业健康安全管理体系的文化，很大程度上是由高层管理人员决定的，它是个人和团体价值观、态度、管理实践、感知、能力和活动模式的产物，这些活动决定了其职业健康与安全管理体系的承诺、风格和成熟度。它的特点是，但不限于，员工的积极参与，建立在相互信任基础上的合作与交流，通过积极参与发现职业健康与安全的机会，以及对预防和保护措施有效性的信心，共同认识到职业健康与安全管理体系的重要性。高层管理人员展示领导力的一个重要方式是鼓励员工报告事件、危险源、风险和机会，并保护员工免受报复，如解雇威胁或纪律处分等。

A.5.2 职业健康与安全方针

职业健康与安全方针是最高管理者声明承诺的一系列原则，指明了组织支持并持续改进职业健康与安全绩效的长期发展方向。方针为设定组织的职业健康与安全目标、采取措施获得预期的产出提供了方向和框架。

These commitments are then reflected in the processes an organization establishes to ensure a robust, credible and reliable OH&S management system (including addressing the specific requirements in this document).

The term "minimize" is used in relation to OH&S risks to set out the organization's aspirations for its OH&S management system. The term "reduce" is used to describe the process to achieve this.

In developing its OH&S policy, an organization should consider its consistency and coordination with other policies.

A.5.3 Organizational roles, responsibilities and authorities

Those involved in the organization's OH&S management system should have a clear understanding of their role, responsibility(ies) and authority(ies) for achieving the intended outcomes of the OH&S management system.

While top management has overall responsibility and authority for the OH&S management system, every person in the workplace needs to take account not only of their own health and safety, but also the health and safety of others.

Top management being accountable means being answerable for decisions and activities to the organization's governing bodies, legal authorities and, more broadly, its interested parties. It means having ultimate responsibility and relates to the person who is held to account if something is not done, is not done properly, does not work or fails to achieve its objective.

Workers should be enabled to report about hazardous situations so that action can be taken. They should be able to report concerns to responsible authorities as required, without the threat of dismissal, disciplinary action or other such reprisals.

The specific roles and responsibilities identified in 5.3 may be assigned to an individual, shared by several individuals, or assigned to a member of top management.

A.5.4 Consultation and participation of workers

The consultation and participation of workers, and, where they exist, workers' representatives, can be key factors of success for an OH&S management system and should be encouraged through the processes

这些承诺体现在组织建立的过程中，以确保职业健康与安全管理体系的稳定、可靠和可信，并满足本标准中的特定需求。

术语“最小化”用于职业健康与安全风险和组织对职业健康与分析管理体系期望之间的关系。“减小”用于描述实现这一目标的过程。

制定职业健康与安全方针时，组织应考虑与其他方针之间的一致性和协调性。

A.5.3 组织的岗位、职责与权限

参与组织职业健康与安全管理体系的人员应当清晰的理解其在实现预期结果方面的岗位、职责和权限。

最高管理者全权负责职业健康与安全管理体系，在工作场所中的每个员工除了应负责个人的健康和安外，还要对其他员工的健康和安全负责。

最高管理者有责任意味着应对组织的管理机构、法律部门，乃至相关方的决策和活动负责。这意味着最高管理者要负最终的责任，即如果有工作没有完成，或者没有完成好，职业健康与安全管理体系没有运行或者没有实现预期的目标最高管理者需要负责任。

员工应该能够报告危险情况，以便采取措施。他们应该能够按照责任部门的需要报告他们的担忧，而不会受到解雇、纪律处分或其他此类报复的威胁。

5.3识别的特定岗位和职责可划分给某一个人，也可由几个人分担，或划分给最高管理层的某成员。

A.5.4 员工的协商和参与

员工以及员工代表（如果有）的协商和参与，应该是职业健康与安全管理体系成功的关键因素，应该通过该组织建立的过程给予激励。

established by the organization.

Consultation implies a two-way communication involving dialogue and exchanges. Consultation involves the timely provision of the information necessary for workers, and, where they exist, workers' representatives, to give informed feedback to be considered by the organization before making a decision.

Participation enables workers to contribute to decision-making processes on OH&S performance measures and proposed changes.

Feedback on the OH&S management system is dependent upon worker participation. The organization should ensure workers at all levels are encouraged to report hazardous situations, so that preventive measures can be put in place and corrective action taken.

The reception of suggestions will be more effective if workers do not fear the threat of dismissal, disciplinary action or other such reprisals when making them.

A.6 Planning

A.6.1 Actions to address risks and opportunities

A.6.1.1 General

Planning is not a single event, but an ongoing process, anticipating changing circumstances and continually determining risks and opportunities, both for the workers and for the OH&S management system.

Undesired effects can include work-related injury and ill health, noncompliance with legal requirements and other requirements, or damage to reputation. Planning considers the relationships and interactions between the activities and requirements for the management system as a whole.

OH&S opportunities address the identification of hazards, how they are communicated, and the analysis and mitigation of known hazards. Other opportunities address system improvement strategies.

Examples of opportunities to improve OH&S performance:

- a) inspection and auditing functions;
- b) job hazard analysis (job safety analysis) and task-related assessments;
- c) improving OH&S performance by alleviating monotonous work or work at a potentially hazardous

协商意味着包括对话和交流的双向沟通。协商包括及时为员工以及员工代表（如果存在）提供必要的信息，以便在决策前为组织提供反馈，供组织考虑。

参与使员工能够为职业健康安全绩效评估的决策过程做出贡献，并提出改进建议。

对职业健康与安全管理体系的反馈取决于员工的参与。组织应确保激励各级工作人员报告危险情况，以便采取针对性预防措施，并采取纠正措施。

如果员工不担心被解雇、纪律处分或其他此类报复的威胁，那么将会更加有效地接受建议。

A.6 策划

A.6.1 应对风险和机遇的措施

A.6.1.1 总则

策划不是单一的事件，而是一个持续根据环境的变化确定员工和职业健康与安全管理体系面临的风险和机遇的过程。

非预期影响包括与工作有关的伤害和损伤、不符合法律法规和其他需要，或名誉受损。策划应对各项活动与管理体系要求之间的相互关系和影响进行综合考虑。

职业健康与安全管理体系机遇涉及危险源识别、危险源之间的相互影响、已知风险源的分析及消减。其他机遇涉及体系改进的战略。

改进职业健康与安全管理体系绩效的机遇的例子有：

- a) 检查与审计职能；
- b) 职业危险源分析（职业安全分析）及有关工作评估；
- c) 通过减小工作单调性或预先确定有潜在风险的工作效率来改进职业健康与安全绩效。

<p>pre-determined work rate; d) permit to work and other recognition and control methods; e) incident or nonconformity investigations and corrective actions; f) ergonomic and other injury prevention-related assessments.</p> <p>Examples of other opportunities to improve OH&S performance:</p> <ul style="list-style-type: none"> -integrating occupational health and safety requirements at the earliest stage in the life cycle of facilities, equipment or process planning for facilities relocation, process re-design or replacement of machinery and plant; -using new technologies to improve OH&S performance; -improving the occupational health and safety culture, such as by extending competence related to occupational health and safety beyond requirements or encouraging workers to report incidents in a timely manner; -improving the visibility of top management's support for the OH&S management system; -enhancing the incident investigation process(es); -improving the process(es) for worker consultation and participation; -benchmarking, including consideration of both the organization's own past performance and that of other organizations; -collaborating in forums that focus on topics dealing with occupational health and safety. <p>A.6.1.2 Hazard identification and assessment of risks and opportunities</p> <p>A.6.1.2.1 Hazard identification</p> <p>The ongoing proactive identification of hazard begins at the conceptual design stage of any new workplace, facility, product or organization. It should continue as the design is detailed and then comes into operation, as well as being ongoing during its full life cycle to reflect current, changing and future activities.</p> <p>While this document does not address product safety (i.e. safety to end-users of products), hazards to workers occurring during manufacture, construction, assembly or testing of products should be considered.</p> <p>Hazard identification helps the organization recognize and understand the hazards in the workplace and to workers, in order to assess, prioritize and eliminate</p>	<p>d)允许工作以及其他识别和控制方法;</p> <p>e)事件或不合格调查及纠正措施;</p> <p>f)人因工作及其他预防伤害评估。</p> <p>改进职业健康与安全管理体系绩效的机遇的其他例子:</p> <ul style="list-style-type: none"> -在设施、设备寿命周期的早期或在重新安置设施、重新设计工艺或机器设备更换、工厂更新时整合职业健康与安全的要求; -采用新技术改进职业健康与安全管理体系绩效; -改进职业健康与安全文化,如拓展与职业健康和有关的能力超越需求或鼓励员工及时报告事件; -改进最高层对职业健康安全管理体系的支持; -加强事件调查; -改进员工协商和参与的过程; -重标杆,既考虑组织原有绩效又要计及其他组织的绩效; -注重与以职业健康安全为主题论坛的合作。 <p>A.6.1.2 风险源识别和风险与机遇的评估</p> <p>A.6.1.2.1 风险源识别</p> <p>任何新的工作场所、设施、产品或组织的概念设计阶段开始持续主动识别危险源。主动识别应该继续到详细设计,然后到运行,直到贯穿整个生命周期,以反映当前的、变化的和未来的活动。</p> <p>虽然本标准不涉及产品安全(即产品对最终用户的安全),但应考虑产品在制造、建造、装配或产品测试过程中对员工造成的伤害。</p> <p>危险源识别有助于组织识别和理解工作场所中的危险源及其对员工的危害,以评估、优先处理和消除危险源或减少职业健康与安全风险。</p>
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<p>hazards or reduce OH&S risks.</p> <p>Hazards can be physical, chemical, biological, psychosocial, mechanical, electrical or based on movement and energy.</p> <p>The list given in 6.1.2.1 is not exhaustive.</p> <p>NOTE The numbering of the following list items a) to f) does not correspond exactly to the numbering of the list items given in 6.1.2.1.</p> <p>The organization's hazard identification process(es) should consider:</p> <p>a) routine and non-routine activities and situations:</p> <ol style="list-style-type: none"> 1) routine activities and situations create hazards through day-to-day operations and normal work activities; 2) non-routine activities and situations are occasional or unplanned; 3) short-term or long-term activities can create different hazards; <p>b) human factors:</p> <ol style="list-style-type: none"> 1) relate to human capabilities, limitations and other characteristics; 2) information should be applied to tools, machines, systems, activities and environment for safe, comfortable human use; 3) should address three aspects: the activity the worker and the organization, and how these interact with and impact on occupational health and safety; <p>c) new or changed hazards:</p> <ol style="list-style-type: none"> 1) can arise when work processes are deteriorated, modified, adapted or evolved as a result of familiarity or changing circumstances; 2) understanding how work is actually performed [e.g. observing and discussing hazards with workers] can identify if OH&S risks are increased or reduced; <p>d) potential emergency situations:</p> <ol style="list-style-type: none"> 1) unplanned or unscheduled situations that require an immediate response (e.g. a machine catching fire in the workplace, or a natural disaster in the vicinity of the workplace or at another location where workers are performing work-related activities); 2) include situations such as civil unrest at a location at which workers are performing work-related activities which requires their urgent evacuation; <p>e) people:</p> <ol style="list-style-type: none"> 1) those in the vicinity of the workplace who could be affected by the activities of the organization (e.g. passers-by, contractors or immediate neighbours) ; 	<p>危险源可以是物理的、化学的、生物的、心理的、机械的、电气的，或者是基于运动和能量的。</p> <p>6.1.2.1并没有给出全部危险源。</p> <p>注 a)到f)给出内容的顺序与6.1.2.1内容顺序并不完全一致。</p> <p>在组织的风险源识别过程中应考虑：</p> <p>a) 常规和非常规的活动和情况：</p> <ol style="list-style-type: none"> 1)常规活动和情况会通过日常运行和正常的工作活动造成伤害； 2) 非常规活动和情况是指偶然或非机会活动； 3)短期或长期活动造成不同的伤害； <p>b)人为因素：</p> <ol style="list-style-type: none"> 1) 与人的能力、局限性和其他特征有关； 2) 信息应用于工具、机器、系统、活动和环境，以保证人的安全和舒适； 3) 应该应对以下三个方面的问题：活动、员工和组织及其与职业健康和安全的相互作用和影响； <p>c)新的或已经变化的风险源：</p> <ol style="list-style-type: none"> 1)当工作过程因熟悉或变化的环境而恶化、修改、调整或发展时，可能会出现； 2) 了解实际工作是如何进行的(如与员工观察和讨论风险源)可以确定职业安全与健康风险是否增加或减少； <p>d)潜在的紧急情况：</p> <ol style="list-style-type: none"> 1) 非计划或无计划，需要立即作出响应的情况（例如，在工作场所的机器起火，或工作场所附近或员工正在从事与工作有关的活动的另一个地点发生自然灾害）； 2) 包括在员工从事与工作有关的活动时发生内乱等，在这些情况下员工需要紧急疏散； <p>e) 人员：</p> <ol style="list-style-type: none"> 1)在工作场所附近的人可能会受到组织活动的影响（例如，过路的人、承包商或近邻）；
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2) workers at a location not under the direct control of the organization, such as mobile workers or workers who travel to perform work-related activities at another location (e.g. postal workers, bus drivers, service personnel travelling to and working at a customer's site) ;

3) home-based workers, or those who work alone;

f) changes in knowledge of, and information about, hazards:

1) sources of knowledge, information and new understanding about hazards can include published literature, research and development, feedback from workers, and review of the organization's own operational experience;

2) these sources can provide new information about the hazards and OH&S risks.

A.6.1.2.2 Assessment of OH&S risks and other risks to the OH&S management system

An organization can use different methods to assess OH&S risks as part of its overall strategy for addressing different hazards or activities. The method and complexity of assessment does not depend on the size of the organization, but on the hazards associated with the activities of the organization.

Other risks to the OH&S management system should also be assessed using appropriate methods.

Processes for the assessment of risk to the OH&S management system should consider day-to-day operations and decisions (e.g. peaks in work flow, restructuring) as well as external issues (e.g. economic change). Methodologies can include ongoing consultation of workers affected by day-to-day activities [e.g. changes in work load), monitoring and communication of new legal requirements and other requirements (e.g. regulatory reform, revisions to collective agreements regarding occupational health and safety), and ensuring resources meet existing and changing needs (e.g. training on, or procurement of, new improved equipment or supplies).

A.6.1.2.3 Assessment of OH&S opportunities and other opportunities for the OH&S management system

The process for assessment should consider the OH&S opportunities and other opportunities determined, their

2) 不在组织直接控制的地点工作的员工，如流动员工或在另一地点从事与工作有关的活动的员工（例如，邮政工人、公共汽车司机、在客户所在地旅行和工作的服务人员）；

3) 在家工作的员工，或独自工作的人；

f) 危险源知识和信息的变化：

1)危险源知识、信息以及对危险源的新认识的来源包括文献、研究和发展，员工的反馈，以及对组织运作的经验审视；

2)这些信息源可以提供危险源和职业健康安全风险有关的新信息。

A. 6. 1. 2. 2职业健康和安全管理系风险和其他风险的评估

组织可以使用不同的方法来评估职业健康与安全风险，作为应对不同风险源或活动的整体策略的一部分。评估的方法和复杂性并不取决于组织的规模，而是取决于组织的活动所带来的危害。

职业健康与安全管理系的其他风险也应采用适当的方法进行评估。

在职业健康与安全管理系风险评估的过程中应该考虑到组织日常的运营和决策（例如，工作流的峰值，重组）以及外部问题（例如经济变化）。方法可以包括对受日常活动影响的员工进行持续的咨询（工作负荷的变化），检查和交流法律法规的新要求和其他要求（例如，监管改革，关于职业健康和安全集体协议的修订），并确保资源满足现有和不断变化的需求（例如，培训或采购新的改良设备或供应品）。

A.6.1.2.3 职业健康与安全管理系的机遇和其他机遇的评估

在评估中应考虑已识别的职业健康与安全管理系机遇和其他机遇及其对提高职业健康与安全管理系

<p>benefits and potential to improve OH&S performance.</p> <p>a) Legal requirements can include:</p> <ol style="list-style-type: none"> 1) legislation (national, regional or international) including statutes and regulations; 2) decrees and directives; 3) orders issued by regulators; 4) permits, licences or other forms of authorization; 5) judgments of courts or administrative tribunals; 6) treaties, conventions, protocols; 7) collective bargaining agreements. <p>b) Other requirements can include:</p> <ol style="list-style-type: none"> 1) the organization's requirements; 2) contractual conditions; 3) employment agreements; 4) agreements with interested parties; 5) agreements with health authorities; 6) non-regulatory standards, consensus standards and guidelines; 7) voluntary principles, codes of practice, technical specifications, charters; 8) public commitments of the organization or its parent organization. <p>A.6.1.4 Planning action</p> <p>The actions planned should primarily be managed through the OH&S management system and should involve integration with other business processes, such as those established for the management of the environment, quality, business continuity, risk, financial or human resources. The implementation of the actions taken is expected to achieve the intended outcomes of the OH&S management system.</p> <p>When the assessment of OH&S risks and other risks has identified the need for controls, the planning activity determines how these are implemented in operation (see clause 8); for example, determining whether to incorporate these controls into work instructions or into actions to improve competence.</p> <p>Other controls can take the form of measuring or monitoring (see clause 9) .</p> <p>Actions to address risks and opportunities should also be considered under the management of change (see 8.1.3 to ensure there are no resulting unintended consequences.</p> <p>A.6.2 OH&S objectives and planning to achieve them</p>	<p>系绩效的意义和潜力。</p> <p>a) 法律法规要求可以包括:</p> <ol style="list-style-type: none"> 1) 法律 (国家、地区或国际), 包括法规和规章; 2)法令和指令; 3) 监管机构发布的命令; 4) 许可证、执照或其他形式的授权; 5) 法院或行政法庭的判决; 6)条约、公约、协议; 7)集体谈判协议。 <p>b) 其他要求可以包括:</p> <ol style="list-style-type: none"> 1)组织的要求; 2)合同条件; 3)就业协议; 4) 与相关方达成的协议; 5) 与卫生局达成的协议; 6) 非监管标准、共识标准和准则; 7) 自愿原则、行为守则、技术规范、章程; 8) 本组织或其上级组织的公开承诺。 <p>A.6.1.4策划措施</p> <p>措施策划应该主要通过职业健康与安全管理体系来管理, 并且应该与为环境、质量、业务连续性、风险、财务或人力资源等管理而建立的过程整合。所采取措施的实施将实现职业健康与安全管理体系的预期结果。</p> <p>当职业健康与安全风险和其他风险的评估确定了控制的必要性时, 策划措施确定这些这些控制的具体实现方法 (见第8条);例如, 确定是否将这些控制整合到工作指南中,或者整合到提高能力的措施中。</p> <p>其他控制的方法可以采用测量或监视的形式 (参见第9条)。</p> <p>在变更管理 (见8.1.3) 中也应该考虑应对风险和机遇的措施, 以确保不会产生非预期的后果。</p> <p>A.6.2职业健康安全管理体系目标及实现目标的策划</p>
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A.6.2.1 OH&S objectives

Objectives are established to maintain and improve OH&S performance. The objectives should be linked to risks and opportunities and performance criteria which the organization has identified as being necessary for the achievement of the intended outcomes of the OH&S management system.

OH&S objectives can be integrated with other business objectives and should be set at relevant functions and levels. Objectives can be strategic, tactical or operational:

- a) strategic objectives can be set to improve the overall performance of the OH&S management system (e.g. to eliminate noise exposure);
- b) tactical objectives can be set at facility, project or process level (e.g. to reduce noise at source);
- c) operational objectives can be set at the activity level (e.g. the enclosure of individual machines to reduce noise).

The measurement of OH&S objectives can be qualitative or quantitative. Qualitative measures can be approximations, such as those obtained from surveys, interviews and observations. The organization is not required to establish OH&S objectives for every risk and opportunity it determines.

A.6.2.2 Planning to achieve OH&S objectives

The organization can plan to achieve objectives individually or collectively. Plans can be developed for multiple objectives where necessary.

The organization should examine the resources required (e.g. financial, human, equipment, infrastructure) to achieve its objectives.

When practicable, each objective should be associated with an indicator which can be strategic, tactical or operational.

A.7 Support

A.7.1 Resources

Examples of resources include human, natural, infrastructure, technology and financial.

Examples of infrastructure include the organization's buildings, plant, equipment, utilities, information technology and communications systems, and emergency containment systems.

A.7.2 Competence

The competence of workers should include the knowledge and skills needed to appropriately identify

A.6.2.1职业健康与安全的目标

建立目标是为了保持和提高职业健康与安全管理体系的绩效。这些目标应该与风险、机会和绩效的标准相联系，这是实现职业健康与安全管理体系预期结果的必要条件。

组织可以在相关专业和层级结合其他业务目标设立职业健康与安全的目标。这些目标可以是战略目标、战术目标或操作目标：

- a)战略目标可以用来改善职业健康与安全管理体系的整体绩效（例如消除噪音影响）；
- b)战术目标可以设定在设施、项目或工艺水平上（如在噪声源减少噪音）；
- c)业务目标可以设定在活动级别。（包住机器以减少噪音）。

职业健康与安全目标可以是定性的指标，也可以是定量的指标。定性指标可以从调查、访谈和观察中获得的结果。组织不需要为确定的每一个风险和机遇建立职业健康与安全的目标。

A.6.2.2 实现职业健康与安全目标的策划

组织可以策划实现单一目标或全部目标。如有必要，可以制定实现多目标的计划。

组织应该检查实现其目标所需的资源（如财力、人力、设备及基础设施）。

如果可行，每个目标都应该标注清楚是战略目标、战术目标还是操作目标。

A.7 支持

A.7.1 资源

资源一般包括人力资源、自然资源、基础设施、技术以及财力等。

基础设施一般包括组织的建筑物、工厂、设备、公用设备、信息技术、通信系统和紧急安全壳系统。

A.7.2 能力

员工的能力应该包括能够恰当的认识与工作和工作场所相关的风险源并处理职业健康与安全风险所需

<p>the hazards and deal with the OH&S risks associated with their work and workplace.</p> <p>In determining the competence for each role, the organization should take into account things such as:</p> <ul style="list-style-type: none"> a) the education, training, qualification and experience necessary to undertake the role and the retraining necessary to maintain competence; b) the work environment; c) the preventive and control measures resulting from the risk assessment process(es); d) the requirements applicable to the OH&S management system; e) legal requirements and other requirements; f) the OH&S policy; g) the potential consequences of compliance and noncompliance, including the impact on the worker's health and safety; h) the value of participation of workers in the OH&S management system based on their knowledge and skill; i) the duties and responsibilities associated with the roles; j) individual capabilities, including experience, language skills, literacy and diversity; k) the relevant updating of the competence made necessary by context or work changes. <p>Workers can assist the organization in determining the competence needed for roles. Workers should have the necessary competence to remove themselves from situations of imminent and serious danger. For this purpose, it is important that workers are provided with sufficient training on hazards and risks associated with their work.</p> <p>As appropriate, workers should receive the training required to enable them to carry out their representative functions for occupational health and safety effectively.</p> <p>In many countries, it is a legal requirement to provide training at no cost to workers.</p> <p>A.7.3 Awareness</p> <p>In addition to workers (especially temporary worker), contractors, visitors and any other parties should be aware of the OH&S risks to which they are exposed.</p> <p>A.7.4 Communication</p>	<p>的知识和技能。</p> <p>在确定每一个岗位的能力时,组织应考虑以下要素:</p> <ul style="list-style-type: none"> a) 承担岗位和维持能力所需的教育、培训、资格和资历; b) 工作环境; c) 风险评估过程得到的预防和控制措施; d) 适用于职业健康与安全管理体系的要求; e) 法律法规要求和其他要求; f) 职业健康与安全方针; g) 合规和不合规的潜在影响,包括对员工健康和安全的影响; h) 员工基于其知识和技能参与职业健康与安全管理体系的价值; i) 与岗位相关的工作职责; j) 个人能力,包括经验、语言能力、读写能力和综合能力; k) 根据工作内容或工作环境的变化更新必需的相关能力。 <p>员工可以帮助组织确定岗位所需的能力。员工应具备使自己摆脱迫在眉睫的严重危险的必要能力。为此,重要的是给员工提供充分的与工作相关的风险源和风险的培训。</p> <p>员工应该酌情接受必要的培训,确保能够有效地履行职业健康和安全的职能。</p> <p>在许多国家,向员工免费提供培训是一项法律的要求。</p> <p>A.7.3 意识</p> <p>除了员工(特别是临时工),承包商、访客和任何其他相关方都应该意识到他们所面临的职业健康与安全的风险。</p> <p>A.7.4 沟通</p>
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The communication process(es) established by the organization should provide for the gathering, updating and dissemination of information. It should ensure that relevant information is provided, is received and is understandable to all relevant workers and interested parties.

A.7.5 Documented information

It is important to keep the complexity of the documented information at the minimum level possible to ensure effectiveness, efficiency and simplicity at the same time.

This should include documented information regarding planning to address legal requirements and other requirements and on evaluations of the effectiveness of these actions.

The actions described in 7.5.3 are particularly aimed at preventing unintended use of obsolete documented information.

Examples of confidential information include personal and medical information.

A.8 Operation

A.8.1 Operational planning and control

A.8.1.1 General

Operational planning and control of the processes need to be established and implemented as necessary to enhance occupational health and safety, by eliminating hazards or, if not practicable, by reducing the OH&S risks to levels as low as reasonably practicable for operational areas and activities.

Examples of operational control of the processes include:

- a) the use of procedures and systems of work;
- b) ensuring the competence of workers;
- c) establishing preventive or predictive maintenance and inspection programmes;
- d) specifications for the procurement of goods and services;
- e) application of legal requirements and other requirements, or manufacturers' instructions for equipment;
- f) engineering and administrative controls;
- g) adapting work to workers; for example, by:

- 1) defining, or redefining, how the work is organized;
- 2) the induction of new workers;

组织建立的沟通过程应实现信息的收集、更新和传播。它应确保所有相关员工和相关方能够得到并理解提供的相关信息。

A.7.5 文件化信息

重要的是要将文件化信息的复杂性保持在尽可能低的水平，以确保其有效、高效和简单。

这应包括应对法律要求和其他要求的措施以及对这些措施有效性评估的文件化信息。

在7.5.3中给出了专门应对意外使用过时的文件化信息的措施。

涉密信息包括个人的和医疗的信息。

A.8 运行

A.8.1 运行策划和控制

A.8.1.1 总则

为了改善职业健康和安全，需要建立和实施过程运行和控制策划，通过消除危险源，或在无法消除危险源时，将在运行区域和活动中的职业健康与安全风险降低到合理可行的水平。

过程运行控制的方法包括：

- a) 应用作业程序和作业体系；
- b) 确保员工具有承担工作的能力；
- c) 建立预防性或预测性维护和检查制度；
- d) 明确货物和服务采购规范；
- e) 设备使用满足法律要求和其他要求，或制造商的提供的设备指南；
- f) 采用工程控制措施和管理控制措施；
- g) 使工作满足员工职业健康安全的需要；例如，通过：
 - 1) 定义或重新定义工作是如何组织的；
 - 2) 招聘新员工；

- 3) defining, or redefining, processes and working environments;
- 4) using ergonomic approaches when designing new, or modifying, workplaces, equipment, etc.

A.8.1.2 Eliminating hazards and reducing OH&S risks

The hierarchy of controls is intended to provide a systematic approach to enhance occupational health and safety, eliminate hazards, and reduce or control OH&S risks. Each control is considered less effective than the one before it. It is usual to combine several controls in order to succeed in reducing the OH&S risks to a level that is as low as reasonably practicable. The following examples are given to illustrate measures that can be implemented at each level.

- a) Elimination: removing the hazard; stopping using hazardous chemicals; applying ergonomics approaches when planning new workplaces; eliminating monotonous work or work that causes negative stress; removing fork-lift trucks from an area.
- b) Substitution: replacing the hazardous with less hazardous; changing to answering customer complaints with online guidance; combating OH&S risks at source; adapting to technical progress (e.g. replacing solvent-based paint by water-based paint; changing slippery floor material; lowering voltage requirements for equipment).
- c) Engineering controls, reorganization of work, or both: isolating people from hazard; implementing collective protective measures (e.g. isolation, machine guarding, ventilation systems); addressing mechanical handling; reducing noise; protecting against falls from height by using guard rails; reorganizing work to avoid people working alone, unhealthy work hours and workload, or to prevent victimization.
- d) Administrative controls including training: conducting periodic safety equipment inspections; conducting training to prevent bullying and harassment; managing health and safety coordination with subcontractors' activities; conducting induction training; administrating forklift driving licences; providing instructions on how to report incidents, nonconformities and victimization without fear of retribution; changing the work patterns (e.g. shifts) of workers; managing a health or medical surveillance

- 3) 定义或重新定义过程和工作环境;

- 4)在重新设计或完善工作场所以及设备等时采用人因工程方法。

A.8.1.2 消除危险源并减小职业健康和安全风险

层级控制旨在提供一种系统的方法来改善职业健康和安全的风险，消除危险源，减少或控制健康与安全的风险。一般每一层级的控制方法都不如之前的控制层级有效。为了成功地将职业健康与安全风险降低到合理可行的水平，通常将几种控制措施组合实施。

下面的例子说明了可以在每一控制层级上实施的措施。

- a) 消除：消除危险源;停止使用危险的化学品;在规划新的工作场所时应用工效学方法;消除单调工作或产生负面压力的工作;在一个地区清除卡车升降机。
- b) 替代：用危害较小的代替危害较大的;通过在线指导来回答客户投诉;在源头上应对职业健康与安全的风险;采用先进技术(如用水性涂料代替溶剂涂料;改变湿滑的地板材料;降低设备的电压要求)。
- c) 工程控制、工作重组或两者：将人从危险中分离出来;实施综合保护措施(如隔离、机器保护、通风系统);解决机械处理;减少噪音;使用护栏防止坠落高度;重新组织工作，避免人们独自工作，不健康的工作时间和工作量，或者防止受害。
- d) 管理控制，包括培训：定期进行安全设备检查;组织防止欺凌和骚扰的培训；与分包商协作管理其职业健康与安全；组织入职培训；管理叉车驾驶证；提供关于如何报告事件、不符合和受害情况的说明，而不用担心遭到报复；改变员工工作模式(如轮班)；对被确认处在危险的员工(如与听觉、手臂振动、呼吸系统疾病、皮肤疾病或接触有关)实施管理健康或医疗监督计划；为员工提供适当的指导(比如，入口控制程序)。

programme for workers who have been identified as at risk (e.g. related to hearing, hand-arm vibration, respiratory disorders, skin disorders or exposure); giving appropriate instructions to workers (e.g. entry control processes).

e) Personal protective equipment (PPE): providing adequate PPE, including clothing and instructions for PPE utilization and maintenance (e.g. safety shoes, safety glasses, hearing protection, gloves).

A.8.1.3 Management of change

The objective of a management of change process is to enhance occupational health and safety at work, by minimizing the introduction of new hazards and OH&S risks into the work environment as changes occur (e.g. with technology, equipment, facilities, work practices and procedures, design specifications, raw materials, staffing, standards or regulations). Depending on the nature of an expected change, the organization can use an appropriate methodology(ies) (e.g. design review) for assessing the OH&S risks and the OH&S opportunities of the change. The need to manage change can be an outcome of planning (see 6.1.4).

A.8.1.4 Procurement

A.8.1.4.1 General

The procurement process(es) should be used to determine, assess and eliminate hazards, and to reduce OH&S risks associated with, for example, products, hazardous materials or substances, raw materials, equipment, or services before their introduction into the workplace.

The organization's procurement process(es) should address requirements including, for example, supplies, equipment, raw materials, and other goods and related services purchased by the organization to conform to the organization's OH&S management system. The process should also address any needs for consultation (see 5.4) and communication (see 7.4) .

The organization should verify that equipment, installations and materials are safe for use by workers by ensuring:

- a) equipment is delivered according to specification and is tested to ensure it works as intended;
- b) installations are commissioned to ensure they function as designed;
- c) materials are delivered according to their

e) 个人防护装备（PPE）：提供足够的个人防护装备,包括服装和个人防护用品的使用和保养说明(例如安全鞋、安全眼镜、听力保护设备、手套)。

A.8.1.3 变更管理

管理变更过程的目标是在变更（如，技术、设备、设施、工作实践和程序、设计规范、原材料、人员配备、标准或规章制度）时通过尽量减少在工作环境中引入新的危险源和职业健康风险，从而提高职业健康和安全绩效。根据预期变化的性质，组织可以使用适当的方法（例如设计评审）来评估变更的职业健康与安全风险和机会。变更管理的需要可能是策划的结果（见6.1.4）。

A.8.1.4采购

A.8.1.4.1总则

采购过程应用于确定、评估和消除危险源，并在其进入工作场所之前减少与产品、危险材料或物质、原材料、设备或服务有关的职业健康安全风险。

组织的采购过程应满足其采购的如供货、设备、原材料和其他商品及相关服务符合组织的职业健康安全管理体系的要求。这个过程还应该满足任何协商（见5.4）和沟通（见7.4）的需求。

组织应核实员工使用的设备、装置和材料是安全的，通过：

- a) 设备按照设计规范交付，并进行测试以确保其能够按照预期运转；
- b) 安装装置是为了确保它们按设计的功能运转；
- c)按照标准交付材料；

specifications;

d) any usage requirements, precautions or other protective measures are communicated and made available.

A.8.1.4.2 Contractors

The need for coordination recognizes that some contractors (i.e. external providers) possess specialized knowledge, skills, methods and means.

Examples of contractor activities and operations include maintenance, construction, operations, security, cleaning and a number of other functions. Contractors can also include consultants or specialists in administrative, accounting and other functions. Assignment of activities to contractors does not eliminate the organization's responsibility for the occupational health and safety of workers.

An organization can achieve coordination of its contractors' activities through the use of contracts that clearly define the responsibilities of the parties involved. An organization can use a variety of tools for ensuring contractors' OH&S performance in the workplace (e.g. contract award mechanisms or prequalification criteria which consider past health and safety performance, safety training, or health and safety capabilities, as well as direct contract requirements).

When coordinating with contractors, the organization should give consideration to the reporting of hazards between itself and its contractors, controlling worker access to hazardous areas, and procedures to follow in emergencies. The organization should specify how the contractor will coordinate its activities with the organization's own OH&S management system processes (e.g. those used for controlling entry, for confined space entry, exposure assessment and process safety management) and for the reporting of incidents.

The organization should verify that contractors are capable of performing their tasks before being allowed to proceed with their work; for example, by verifying that:

- a) OH&S performance records are satisfactory;
- b) qualification, experience and competence criteria for workers are specified and have been met (e.g. through training);
- c) resources, equipment and work preparations are

d) 任何使用要求、预防措施或其他保护措施均已提供并已经进行沟通。

A.8.1.4.2 承包商

需要确认某些承包商（即外部供方）拥有专业知识、技能、方法和手段。

承包商的活动和运营包括维护、建设、运营、保安全、保洁以及其他工作。承包商也可以是咨询顾问、管理专家、会计和其他方面专家。将业务委托给承包商并不能消除组织对员工职业健康和安全的责任。

组织可以通过使用明确定义相关各方责任的合同来协调承包商的活动。组织可以使用各种各样的工具来确保承包商在工作场所的职业健康与安全绩效（例如，合同授予机制或考虑过去的健康和安全绩效、安全培训或健康和安全的资格预审标准，以及直接合同要求）。

在与承包商进行协调时，组织应考虑报告自身与承包商之间的危险情况，控制工人进入危险地区的途径，以及在紧急情况下遵循的程序。组织应该明确承包商如何协调其活动与组织自身的职业健康与安全管理体系程序（如用于控制进入、限制空间进入、暴露评估和过程安全管理）和报告事件。

组织应核实承包商是否有能力完成其任务，然后才能继续工作；例如，通过验证：

- a) 职业健康与安全的绩效记录良好；
- b) 员工的资质、资历和能力标准已经确定并满足要求（例如：已经过培训）；
- c) 资源、设备和工作准备充分，并做好了工作准备。

adequate and ready for the work to proceed.

A.8.1.4.3 Outsourcing

When outsourcing, the organization needs to have control of the outsourced functions and process(es) to achieve the intended outcome(s) of the OH&S management system. In the outsourced functions and process(es), the responsibility for conforming to the requirements of this document is retained by the organization.

The organization should establish the extent of control over outsourced function(s) or process(es) based upon factors such as:

—the ability of the external organization to meet the organization's OH&S management system requirements;

—the technical competence of the organization to define appropriate controls or assess the adequacy of controls;

—the potential effect the outsourced process or function will have on the organization's ability to achieve the intended outcome of its OH&S management system;

—the extent to which the outsourced process or function is shared;

—the capability of the organization to achieve the necessary control through the application of its procurement process;

—opportunities for improvement.

In some countries, legal requirements address outsourced functions or processes.

A.8.2 Emergency preparedness and response

Emergency preparedness plans can include natural, technical and man-made events that occur inside and outside normal working hours.

A. 9 Performance evaluation

B.

A.9.1 Monitoring, measurement, analysis and performance evaluation

A. 9.1.1 General

In order to achieve the intended outcomes of the OH&S management system, the processes should be monitored, measured and analysed.

a) Examples of what could be monitored and measured can include, but are not limited to:

1) occupational health complaints, health of workers

A.8.1.4.3 外包

在外包时，组织需要控制外包活动及过程以实现职业健康与安全管理体系的预期结果。在外包活动和过程中，由组织负责保持满足本标准要求的职责。

组织应根据以下因素建立对外包活动和过程的控制范围，如：

—外部组织满足组织的职业健康与安全管理体系要求的能力；

—组织规定合适的控制方法或评估控制方法的充分性的技术能力；

—外包过程或活动对组织实现其职业健康与安全管理体系预期结果的能力产生的潜在影响；

—外包过程或活动的共享程度；

—组织通过其采购过程的应用实现必要控制的能力；

—改进的机会。

在一些国家，控制外包的活动或过程是法律的要求。

A.8.2 应急准备和响应

应急准备预案可以包括在正常工作时间内外发生的自然、技术和人为事件。

A.9 绩效评价

A.9.1 绩效监视、测量、分析和评价

A. 9.1.1 总则

为了实现职业健康与安全管理体系的预期结果，应对过程进行监视、测量和分析。

a) 可以监视和测量的项目可以包括，但不限于：

1) 职业健康投诉、员工健康（通过监测）和工作环

<p>(through surveillance) and work environment;</p> <p>2) work-related incidents, injuries and ill health, and complaints, including trends;</p> <p>3) the effectiveness of operational controls and emergency exercises, or the need to modify or introduce new controls;</p> <p>4) competence.</p> <p>b) Examples of what could be monitored and measured to evaluate the fulfilment of legal requirements can include, but are not limited to:</p> <p>1) identified legal requirements (e.g. whether all legal requirements have been determined, and whether the organization's documented information of them is kept up-to-date);</p> <p>2) collective agreements (when legally binding);</p> <p>3) the status of identified gaps in compliance.</p> <p>c) Examples of what could be monitored and measured to evaluate the fulfilment of other requirements can include, but are not limited to:</p> <p>1) collective agreements (when not legally binding);</p> <p>2) standards and codes;</p> <p>3) corporate and other policies, rules and regulations;</p> <p>4) insurance requirements.</p> <p>d) Criteria are what the organization can use to compare its performance against.</p> <p>1) Examples are benchmarks against:</p> <p>i) other organizations;</p> <p>ii) standards and codes;</p> <p>iii) the organization's own codes and objectives;</p> <p>iv) OH&S statistics.</p> <p>2) To measure criteria, indicators are typically used; for example:</p> <p>i) if the criterion is a comparison of incidents, the organization may choose to look at frequency, type, severity or number of incidents; then the indicator could be the determined rate within each one of these criteria;</p> <p>ii) if the criterion is a comparison of completions of corrective actions, then the indicator could be the percentage completed on time.</p> <p>Monitoring can involve continual checking, supervising, critically observing or determining the status in order to identify change from the performance level required or expected. Monitoring can be applied to the OH&S management system, to processes or to controls. Examples include the use of interviews, reviews of documented information and</p>	<p>境;</p> <p>2) 与工作有关的事件、伤害、健康不良和投诉及其趋势;</p> <p>3) 运行控制和紧急演习的有效性, 或需要修改或增加新的控制;</p> <p>4) 能力。</p> <p>b) 为评估满足法律要求的情况, 可以监视和测量的项目可以包括, 但不限于:</p> <p>1) 确定法律要求 (例如是否已经确定了所有的法律要求, 以及该组织的文件化信息是否及时更新);</p> <p>2) 集体协议 (在法律上具有约束力);</p> <p>3) 确定在合规方面存在差距的状况。</p> <p>c) 为评估满足其他要求的情况, 可以监视和测量的项目可以包括, 但不限于:</p> <p>1) 集体协议 (在法律上具有约束力);</p> <p>2) 标准和规范;</p> <p>3) 公司的和其他的政策、规则和规章制度;</p> <p>4) 保险需求。</p> <p>d) 组织可以用来与其绩效对比的标准。</p> <p>1) 可以对比的标杆:</p> <p>i) 其他组织;</p> <p>ii) 标准和规范;</p> <p>iii) 组织规范和目标;</p> <p>iv) 职业健康与安全统计数据。</p> <p>2) 通常使用的测量标准、指标; 如:</p> <p>i) 如果标准是对事件的比较, 组织可以选择查看事件的频率、类型、严重程度或次数; 然后可以确定标准中每一项指标的比值;</p> <p>ii) 如果标准是对纠正措施的完成情况比较, 那么指标可以是按时完成的百分比。</p> <p>监视可以包括持续的检查、监督、严格的观察或确定状态, 以便确定需要或预期绩效水平的变化情况。还可以对职业健康与安全管理体系、过程和控制进行监视。监视可以包括如采访、对文件化信息的审查和对正在进行的工作的观察等。</p>
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observations of work being performed.

Measurement generally involves the assignment of numbers to objects or events. It is the basis for quantitative data and is generally associated with the performance evaluation of safety programmes and health surveillance. Examples include the use of calibrated or verified equipment to measure exposure to a hazardous substance or the calculation of the safe distance from a hazard.

Analysis is the process of examining data to reveal relationships, patterns and trends. This can mean the use of statistical operations, including information from other similar organizations, to help draw conclusions from the data. This process is most often associated with measurement activities.

Performance evaluation is an activity undertaken to determine the suitability adequacy and effectiveness of the subject matter to achieve the established objectives of the OH&S management system.

A.9.1.2 Evaluation of compliance

The frequency and timing of compliance evaluations can vary depending on the importance of the requirement, variations in operating conditions, changes in legal requirements and other requirements and the organization's past performance. An organization can use a variety of methods to maintain its knowledge and understanding of its compliance status.

A.9.2 Internal audit

The extent of the audit programme should be based on the complexity and level of maturity of the OH&S management system.

An organization can establish objectivity and impartiality of the internal audit by creating a process(es) that separates auditors' roles as internal auditors from their normal assigned duties, or the organization can also use external people for this function.

A.9.3 Management review

The terms used in relation to management review should be understood as follows:

- a) "suitability" refers to how the OH&S management system fits the organization, its operation, its culture and business systems;
- b) "adequacy" refers to whether the OH&S management system is implemented appropriately;
- c) "effectiveness" refers to whether the OH&S

测量通常是要确定对象或事件的量值。这是定量数据的基础，通常与安全方案和健康监督的绩效评估有关。例如，使用校准过的或经过验证的设备来测量危险源质的暴露程度，或计算距离危险源的安全距离。

分析是检查数据以揭示相关关系、模式和趋势的过程。这可能意味着使用统计运算，包括来自其他类似组织的信息，以帮助从数据中得出结论。这个过程通常与测量活动有关。

绩效评价是一项旨在确定主题是否合适和有效的活动，以实现职业健康与安全管理体系的既定目标。

A.9.1.2 合规评价

合规性评价的频率和时间取决于需求的重要性、运行条件的变化、法律需求的变化和其他需求以及组织过去的绩效。组织可以使用各种方法来保持其知识，并理解其合规状况。

A.9.2 内部评审

应基于职业健康与安全管理体系的复杂性和成熟度确定评审的范围。

组织可以通过创建一个过程来建立内部评审的客观性和公正性，将评审员的角色与他们的正常职责分离开来，或者组织也可以使用外部人员来完成审。

A.9.3 管理评审

与管理评审有关的术语应理解如下：

- a) "适合性"是指职业健康与安全管理体系与组织及其运行、与组织文化和业务体系的符合度；
- b) "适当性"是指职业健康与安全管理系统是否得到恰到好处的实施；
- c) "有效性"是指职业健康与安全管理系统是否获得

management system is achieving the intended outcome.

The management review topics listed in 9.3 a) to g) need not be addressed all at once; the organization should determine when and how the management review topics are addressed.

A.10 Improvement

A.10.1 General

The organization should consider the results from analysis and evaluation of OH&S performance, evaluation of compliance, internal audits and management review when taking action to improve.

Examples of improvement include corrective action, continual improvement, breakthrough change, innovation and re-organization.

A.10.2 Incident, nonconformity and corrective action

Separate processes may exist for incident investigations and nonconformities reviews, or these may be combined as a single process, depending on the organization's requirements.

Examples of incidents, nonconformities and corrective actions can include, but are not limited to:

a) incidents: same level fall with or without injury; broken leg; asbestosis; hearing loss; damage to buildings or vehicles where they can lead to OH&S risks;

b) nonconformities: protective equipment not functioning properly; failure to fulfil legal requirements and other requirements; prescribed procedures not being followed;

c) corrective actions (as indicated by the hierarchy of controls; see 8.1.2): eliminating hazards; substituting with less hazardous materials; redesigning or modifying equipment or tools; developing procedures; improving the competence of affected workers; changing the frequency of use; using personal protective equipment.

Root cause analysis refers to the practice of exploring all the possible factors associated with an incident or nonconformity by asking what happened, how it happened and why it happened, to provide the input for what can be done to prevent it from happening again.

When determining the root cause of an incident or nonconformity, the organization should use methods

预期的结果。

不需要一次就解决在9.3 a) 到 g)所有的管理评审主题；组织应确定何时、如何解决管理评审主题。

A.10 改进

A.10.1 总则

组织在采取措施实施改进时，应考虑职业健康与安全绩效评价、合规评价、内部评审和管理评审的结果的分析。

改进包括纠正措施、持续改进、突破变革、创新和重组。

A.10.2 事件、不符合和纠正措施

事件调查和不符合评审，可以采用不同的过程，或者根据组织的需求，可以将它们组合成一个单独的过程。

事件、不符合和纠正措施包括，但不限于：

a) 事件：同一水平上的跌倒或没有受伤；腿部骨折；石棉肺；听力受损；建筑物或车辆的损坏，使其有可能导致职业健康安全风险；

b) 不符合：防护设备不能正常工作；未满足法定要求和其他要求的；未遵守规定程序的；

c) 纠正措施（如控制层级所示；见8.1.2):消除风险源；用不太危险的材料代替；重新设计或修改设备或工具；制定过程；提高受影响工人的能力；改变使用频率；使用个人防护设备。

根本原因分析是指通过询问发生了什么、如何发生以及为什么发生来探索与事件或不符合有关的所有可能的因素，以此为基础制定措施防止这种情况再次发生。

在确定事件或不符合的根本原因时，组织应该使用适合事件性质或分析不符合的方法。根本原因分析

appropriate to the nature of the incident or nonconformity being analysed. The focus of root cause analysis is prevention. This analysis can identify multiple contributory failures, including factors related to communication, competence, fatigue, equipment or procedures.

Reviewing the effectiveness of corrective actions (see 10.2 f) refers to the extent to which the implemented corrective actions adequately control the root cause(s).

A.10.3 Continual improvement

Examples of continual improvement issues include, but are not limited to:

- a) new technology;
- b) good practices, both internal and external to the organization;
- c) suggestions and recommendations from interested parties;
- d) new knowledge and understanding of occupational health and safety-related issues;
- e) new or improved materials;
- f) changes in worker capabilities or competence;
- g) achieving improved performance with fewer resources (i.e simplification, streamlining, etc.).

Bibliography

- [1] ISO 9000:2015, Quality management systems - Fundamentals and vocabulary
 - [2] ISO 9001, Quality management systems - Requirements
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 - [7] ISO 31000, Risk management- Guidelines
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 - [9] ISO 39001, Road traffic safety (RTS) management systems - Requirements with guidance for use
 - [10] ISO Guide 73:2009, Risk management Vocabulary
 - [11] IEC 31010, Risk management- Risk assessment techniques
 - [12] ILO. Guidelines on occupational safety and health management systems, ILO-OSH 2001. 2nd ed. International Labour Office, Geneva, 2009. Available at: <http://www.ilo.org/safework/>
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的重点是预防。这种分析可以确定多种原因的失败，包括与信息沟通、能力、疲劳、设备或程序相关的因素。

检查纠正措施有效性（见10.2.f）的评审指的是实施的纠正措施充分控制了根本原因的程度。

A.10.3 持续改进

持续改进的方面包括但不限于：

- a) 新技术;
- b) 组织内部和外部的最佳实践;
- c) 相关各方的意见和建议;
- d) 对职业健康和安全管理相关问题的新知和理解;
- e) 新材料或改进的材料;
- f) 员工能力或任职能力的变化;
- g) 用更少的资源实现更好的性能（如，简化,统一,等等）。

<p>/lanEJ--en / index.htm</p> <p>[13] ILO. International Labour Standards (including those on occupational safety and health). International Labour Office, Geneva. Available at: http://www.ilo.org/normlex (click on “ instruments”, then “ Conventions and Recommendations by subject”)</p> <p>[14] OHSAS 18001. Occupational health and safety management systems - Requirements. 2nd ed. OHSAS Project Group, London, July 2007, ISBN 978 0 580 50802 8</p> <p>[15] OHSAS 18002. Occupational health and safety management systems - Guidelines for the implementation of OHSAS 18001:2007. 2nd ed. OHSAS Project Group, London, Nov 2008, ISBN 978 0 580 61674 7</p>	
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