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**Environmental management
systems—General guidelines on
principles, systems and support
techniques**

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee based on the Industrial Standardization Law.

Consequently **JIS Q14004:1996** is replaced with this Standard.

This revision has been made based on **ISO 14004:2004** *Environmental management systems—General guidelines on principles, systems and support techniques* for the purpose of making it easier to compare this Standard with International Standard; to prepare Japanese Industrial Standard conforming with International Standard; and to propose a draft of an International Standard which is based on Japanese Industrial Standard.

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Environmental management systems—General guidelines on principles, systems and support techniques

Introduction This Japanese Industrial Standard has been prepared based on the second edition of **ISO 14004** *Environmental management systems—General guidelines on principles, systems and support techniques* published in 2004 without modifying the technical contents.

The portions underlined with dots are the matters not stated in the original International Standard.

As concern grows for continually improving the quality of the environment, organizations of all types and sizes are increasingly turning their attention to the environmental impacts of their activities, products and services. The environmental performance of an organization is of importance to internal and external interested parties. Achieving sound environmental performance requires organizational commitment to a systematic approach and to continual improvement of an environmental management system (EMS).

The general purpose of this Standard is to provide assistance to organizations that wish to implement or improve an environmental management system and thereby improve their environmental performance. This Standard is consistent with the concept of sustainable development and compatible with diverse cultural, social and organizational frameworks and systems of management.

This Standard can be used by organizations of all types, sizes and levels of maturity, and in all sectors and geographic locations. The special needs of small and medium-sized enterprises (SMEs) are incorporated, and this Standard accommodates their needs and promotes their use of an environmental management system.

This Standard is part of the series of environmental management standards established by **ISO/TC 207**. In this series, only **ISO 14001** (**JIS Q 14001**) contains requirements that may be objectively audited for certification/registration purposes or for self-declaration purposes. This Standard includes examples, descriptions and options that aid both in the implementation of an environmental management system and in strengthening its relation to the overall management of an organization. While the guidelines in this Standard are consistent with the **JIS Q 14001** environmental management system model, they are not intended to provide interpretations of the requirements of **JIS Q 14001**. For ease of use, the subclauses of clause 4 of **JIS Q 14001** have the same numbering as in **JIS Q 14004**. However, the latter has extra subclauses (e.g. 4.3.1.1 or 4.3.3.3), where detailed or additional guidance for an effective environmental management system implementation is considered useful. Apart from this Standard and **JIS Q 14001**, there are numerous other environmental management standards in the series of Standards established by **ISO/TC 207**. A reference to and description of these standards can be found in the ISO publication *The ISO 14000 Family of International Standards*.

This Standard describes the elements of an environmental management system and provides organizations with guidance on how to establish, implement, maintain or improve an environmental management system. Such a system can substantially enhance an organization's ability to anticipate, identify and manage its interactions with the environment, meet its environmental objectives and ensure ongoing compliance with applicable legal requirements and with other requirements to which the organization subscribes.

Examples and approaches are presented throughout this Standard for illustrative purposes. They are not intended to represent the only possibilities, nor are they necessarily suitable for every organization. In designing and implementing or improving an environmental management system, organizations should select approaches that are appropriate to their own circumstances. Environmental management is an integral part of an organization's overall management system. The design of an environmental management system is an ongoing and interactive process. The structure, responsibilities, practices, procedures, processes and resources for implementing environmental policies, objectives and targets can be coordinated with existing efforts in other areas (e.g. operations, finance, quality, occupational health and safety).

For ease of reading and understanding this Standard, practical help and general guidance have been separated out and are shown as boxed text.

Key tasks for managers establishing, implementing, maintaining or improving an environmental management system include the need to

- recognize that environmental management is among the highest organizational priorities,
- establish and maintain communication and constructive relations with internal and external interested parties,
- identify the environmental aspects of the organization's activities, products and services,
- identify the legal requirements and other requirements to which the organization subscribes, that relate to the organization's environmental aspects,
- ensure the commitment of management and all persons working for or on behalf of the organization to the protection of the environment, with clear assignment of accountability and responsibility,
- encourage environmental planning throughout the product or service life cycle,
- establish a process for achieving environmental objectives and targets,
- provide appropriate and sufficient resources, including training, to comply with applicable legal requirements and with other requirements to which the organization subscribes, and to achieve environmental objectives and targets on an ongoing basis,
- evaluate environmental performance against the organization's environmental policy, objectives and targets and seek improvement where appropriate,

- establish a management process to audit and review the environmental management system and to identify opportunities for improvement of the system and resulting environmental performance, and
- encourage contractors and suppliers to establish an environmental management system.

Organizations may use this Standard, or related JIS or **ISO** documents, in various ways, including

- as guidance to establish, implement, maintain or improve its environmental management system, knowing that this Standard is not intended for self-declaration or other conformity assessment purposes, and
- in support of the implementation or improvement of its environmental management system.

The choice will depend on factors such as

- an organization's goals,
- the maturity of an organization's management systems (i.e. whether the organization has a management system in place that is capable of supporting the inclusion of environmental concerns),
- possible advantages and disadvantages, as determined by such factors as an organization's current and desired market position, reputation, external relations and the views of interested parties, and
- the size of an organization.

An effective environmental management system helps an organization to avoid, reduce or control the adverse environmental impacts of its activities, products and services, achieve compliance with applicable legal and requirements and with other requirements to which the organization subscribes and assist in continually improving environmental performance.

Having an environmental management system can help an organization assure interested parties that

- a management commitment exists to meet the provisions of its policy, objectives, and targets,
- emphasis is placed on prevention,
- evidence of reasonable care and regulatory compliance can be provided, and
- the system's design incorporates the process of continual improvement.

Economic benefits can be gained from implementing an environmental management system. An organization whose management system incorporates an environmental management system has a framework to balance and integrate economic and environmental interests. Economic benefits can also be identified to demonstrate to interested parties the value to the organization of sound environmental management. It also pro-

vides the organization with the opportunity to link environmental objectives and targets with specific financial outcomes and thus to ensure that resources are made available where they provide the most benefit in both financial and environmental terms. An organization that has implemented an environmental management system can achieve significant competitive advantages.

In addition to improved environmental performance, the potential benefits associated with an effective environmental management system include

- assuring customers of commitment to demonstrable environmental management,
- maintaining good public/community relations,
- satisfying investor criteria and improving access to capital,
- obtaining insurance at reasonable cost,
- enhancing image and market share,
- improving cost control,
- reducing incidents that result in liability,
- conserving input materials and energy,
- facilitating the attainment of permits and authorizations and meeting their requirements,
- promoting environmental awareness among suppliers, contractors and all persons working for or on behalf of the organization,
- fostering development and sharing of solutions to environmental problems, and
- improving industry-government relations.

1 Scope This Standard provides guidance on the establishment, implementation, maintenance and improvement of an environmental management system and its coordination with other management systems.

Information : While the system is not intended to manage occupational health and safety issues, they may be included when an organization seeks to implement an integrated environmental and occupational health and safety management system.

The guidelines in this Standard are applicable to any organization, regardless of its size, type, location or level of maturity.

While the guidelines in this Standard are consistent with the **JIS Q 14001** environmental management system model, they are not intended to provide interpretations of the requirements of **JIS Q 14001:2004**.

Remarks : The International Standard corresponding to this Standard is as follows.

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) ac-

according to **ISO/IEC Guide 21**.

ISO 14004:2004 *Environmental management systems—General guidelines on principles, systems and support techniques* (IDT)

2 Normative references No normative references are cited. This clause is included in order to retain clause numbering identical with the previous edition (JIS Q 14004:1996).

3 Terms and definitions For the purposes of this document, the following terms and definitions apply.

3.1 auditor person with the competence to conduct an audit

[JIS Q 9000:2000, 3.9.9]

3.2 continual improvement recurring process of enhancing the **environmental management system** (3.9) in order to achieve improvements in overall **environmental performance** (3.11) **consistent with the organization's** (3.20) **environmental policy** (3.13)

Information : The process need not take place in all areas of activity simultaneously.

[JIS Q 14001:2004, 3.2]

3.3 correction action taken to eliminate a detected **nonconformity** (3.18)

Information : Adapted from JIS Q 9000:2000, 3.6.6.

3.4 corrective action action to eliminate the cause of a detected **nonconformity** (3.18)

[JIS Q 14001:2004, 3.3]

3.5 document information and its supporting medium

Information 1 The medium can be paper, magnetic, electronic or optical computer disc, photograph or master sample, or a combination thereof.

2 Adapted from JIS Q 9000:2000, 3.7.2.

[JIS Q 14001:2004, 3.4]

3.6 environment surroundings in which an **organization** (3.20) operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelation

Information : Surroundings in this context extend from within an **organization** (3.20) to the global system.

[JIS Q 14001:2004, 3.5]

3.7 environmental aspect element of an **organization's** (3.20) activities or products or services that can interact with the **environment** (3.6)

Information : A significant environmental aspect has or can have a significant **environmental impact** (3.8).

[JIS Q 14001:2004, 3.6]

3.8 environmental impact any change to the **environment** (3.6), whether adverse or beneficial, wholly or partially resulting from an **organization's** (3.20) **environmental aspects** (3.7)

[JIS Q 14001:2004, 3.7]

3.9 environmental management system (EMS) part of an **organization's** (3.20) management system used to develop and implement its **environmental policy** (3.13) and manage its **environmental aspects** (3.7)

- Information 1 A management system is a set of interrelated elements used to establish policy and objectives and to achieve those objectives.
- 2 A management system includes organizational structure, planning activities, responsibilities, practices, **procedures** (3.23), processes and resources.

[JIS Q 14001:2004, 3.8]

3.10 environmental objective overall environmental goal, consistent with the **environmental policy** (3.13), that an **organization** (3.20) sets itself to achieve

[JIS Q 14001:2004, 3.9]

3.11 environmental performance measurable results of an **organization's** (3.20) management of its **environmental aspects** (3.7)

- Information : In the context of **environmental management systems** (3.9), results can be measured against the **organization's** (3.20) **environmental policy** (3.13), **environmental objectives** (3.10), **environmental targets** (3.14) and other environmental performance requirements.

[JIS Q 14001:2004, 3.10]

3.12 environmental performance indicator (EPI) specific expression that provides information about an **organization's** (3.20) **environmental performance** (3.11)

[JIS Q 14031:2000, 2.10]

3.13 environmental policy overall intentions and direction of an **organization** (3.20) related to its **environmental performance** (3.11) as formally expressed by top management

- Information : The environmental policy provides a framework for action and for the setting of **environmental objectives** (3.10) and **environmental targets** (3.14).

[JIS Q 14001:2004, 3.11]

3.14 environmental target detailed performance requirement, applicable to the **organization** (3.20) or parts thereof, that arises from the **environmental objectives** (3.10)

and that needs to be set and met in order to achieve those objectives

[JIS Q 14001:2004, 3.12]

3.15 interested party person or group concerned with or affected by the **environmental performance (3.11)** of an **organization (3.20)**

[JIS Q 14001:2004, 3.13]

3.16 internal audit systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which the environmental management system audit criteria set by the **organization (3.20)** are fulfilled

Information : In many cases, particularly in smaller organizations, independence can be demonstrated by the freedom from responsibility for the activity being audited.

[JIS Q 14001:2004, 3.14]

3.17 management performance indicator (MPI) environmental performance indicator (3.12) that provides information about the management efforts to influence an **organization's (3.20) environmental performance (3.11)**

[JIS Q 14031:2000, 2.10.1]

3.18 nonconformity non-fulfilment of a requirement

[JIS Q 9000:2000, 3.6.2]

3.19 operational performance indicator (OPI) environmental performance indicator (3.12) that provides information about the **environmental performance (3.11)** of an **organization's (3.20)** operations

[JIS Q 14031:2000, 2.10.2]

3.20 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

Information : For organizations with more than one operating unit, a single operating unit may be defined as an organization.

[JIS Q 14001:2004, 3.16]

3.21 preventive action action to eliminate the cause of a potential **nonconformity (3.18)**

[JIS Q 14001:2004, 3.17]

3.22 prevention of pollution use of processes, practices, techniques, materials, products, services or energy to avoid, reduce or control (separately or in combination)

the creation, emission, or discharge of any type of pollutant or waste, in order to reduce adverse **environmental impacts** (3.8)

Information : Prevention of pollution can include source reduction or elimination, process, product or service changes, efficient use of resources, material and energy substitution, reuse, recovery, recycling, reclamation and treatment.

[JIS Q 14001:2004, 3.18]

3.23 procedure specified way to carry out an activity or a process

Information 1 Procedures can be documented or not.

2 Adapted from JIS Q 9000:2000, 3.4.5.

[JIS Q 14001:2004, 3.19]

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

Information : Adapted from JIS Q 9000:2000, 3.7.6.

[JIS Q 14001:2004, 3.20]

4 Environmental management system elements

4.1 General

4.1.1 The environmental management system model The environmental management system detailed in this Standard follows a “Plan-Do-Check-Act” (PDCA) management model. The environmental management system model and the ongoing process of continual improvement are illustrated in figure 1. For more information on the PDCA model, see *Practical help—The environmental management system model*.

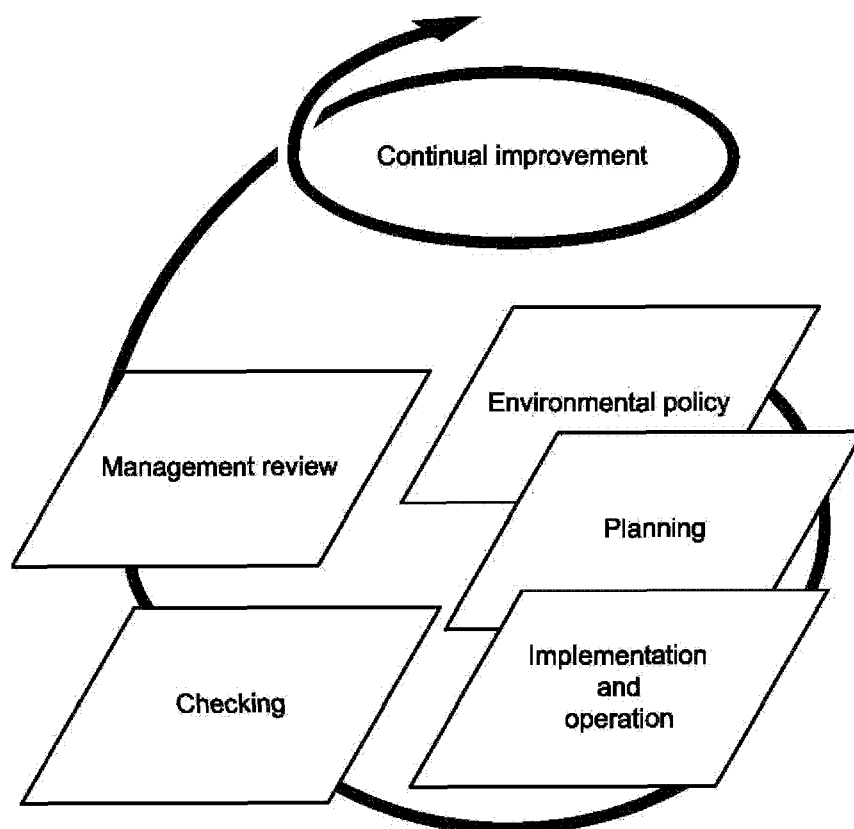


Figure 1 Environmental management system model for this Standard

An environmental management system is best viewed as an organizing framework that should be continually monitored and periodically reviewed to provide effective direction for an organization's environmental management in response to changing internal and external factors. All levels in the organization should accept responsibility for working to achieve environmental improvements, as applicable.

When first establishing an environmental management system an organization should begin where there is obvious benefit, for example by focusing on immediate cost savings or regulatory compliance mainly related to its significant environmental aspects. As the environmental management system takes shape, procedures, programmes and technologies can be put in place to further improve environmental performance. As the environmental management system matures, environmental considerations can be integrated into all business decisions.

Practical help—The environmental management system model

PDCA is an ongoing, iterative process that enables an organization to establish, implement and maintain its environmental policy (see 4.2) based on top management's leadership and commitment to the environmental management system (see 4.1.2). After the organization has evaluated its current position in relation to the environment (see 4.1.4,) the steps of this ongoing process are the following:

- a) **Plan:** establish an ongoing planning process (see 4.3) that enables the organization to
 - 1) identify environmental aspects and associated environmental impacts (see 4.3.1),
 - 2) identify and monitor applicable legal requirements and other requirements to which the organization subscribes, and set internal performance criteria where appropriate (see 4.3.2),
 - 3) set environmental objectives and targets and formulate programme(s) to achieve them (see 4.3.3.1 and 4.3.3.2), and
 - 4) develop and use performance indicators (see 4.3.3.3).
- b) **Do:** implement and operate the environmental management system (see 4.4)
 - 1) create management structures, assign roles and responsibilities with sufficient authority,
 - 2) provide adequate resources (see 4.4.1),
 - 3) train persons working for or on behalf of the organization and ensure their awareness and competence (see 4.4.2),
 - 4) establish processes for internal and external communication (see 4.4.3),
 - 5) establish and maintain documentation (see 4.4.4),
 - 6) establish and implement document control(s) (see 4.4.5),
 - 7) establish and maintain operational control(s) (see 4.4.6), and
 - 8) ensure emergency preparedness and response (see 4.4.7).
- c) **Check:** assess environmental management system processes (see 4.5)
 - 1) conduct ongoing monitoring and measurement (see 4.5.1),
 - 2) evaluate status of compliance (see 4.5.2),
 - 3) identify nonconformity and take corrective and preventive actions (see 4.5.3),
 - 4) manage records (see 4.5.4), and
 - 5) conduct periodic internal audits (see 4.5.5).
- d) **Act:** review and take action to improve the environmental management system (see 4.6)

- 1) conduct management reviews of the environmental management system at appropriate intervals (see 4.6.1), and
- 2) identify areas for improvement (see 4.6.2).

This ongoing process enables the organization to continually improve its environmental management system and its overall environmental performance.

4.1.2 Top management commitment and leadership To ensure success, an early step in establishing or improving an environmental management system involves obtaining commitment from the top management of the organization to improve the environmental management of its activities, products and services. The ongoing commitment and leadership of the top management are crucial. Identifying the benefits that an environmental management system can bring, as well as the challenges that an environmental management system can avoid, may help to secure top management's commitment and leadership.

4.1.3 Scope of the environmental management system Top management need to define the scope of the organization's environmental management system. That is, top management should determine the boundaries of the organization to which the environmental management system applies. Once the scope of the environmental management system has been defined, all activities, products and services of the organization that are within the defined scope should be included in the environmental management system.

4.1.4 Initial environmental review An organization with no existing environmental management system should assess its current position with regard to the environment by means of a review. The aim of this review should be to consider the environmental aspects of the organization's activities, products and services as a basis for establishing its environmental management system.

Organizations with an existing environmental management system may not need to undertake such a review, although such a review could assist them in improving their environmental management system.

The review should cover the following four key areas:

- a) identification of environmental aspects, including those associated with normal operating conditions, abnormal conditions including start-up and shut-down, and emergency situations and accidents;
- b) identification of applicable legal requirements and other requirements to which the organization subscribes;
- c) examination of existing environmental management practices and procedures, including those associated with procurement and contracting activities;
- d) evaluation of previous emergency situations and accidents.

The review can also include additional considerations, such as

- an evaluation of performance compared with applicable internal criteria, external standards, regulations, codes of practice and sets of principles and guidelines,
- opportunities for competitive advantage, including cost reduction opportunities,
- the views of interested parties, and
- other organizational systems that can enable or impede environmental performance.

The results of the review can be used to assist the organization in setting the scope of its environmental management system, developing or enhancing its environmental policy, setting of its environmental objectives and targets, and determining the effectiveness of its approach to maintaining compliance with applicable legal requirements and other requirements to which the organization subscribes.

Practical help—Initial environmental review

Methods that can be used to examine existing environmental management practices and procedures include

- a) interviews with persons previously or currently working for or on behalf of the organization to determine the scope of the organization's past and current activities, products and services,
- b) evaluation of internal and external communications that have taken place with the organization's interested parties, including complaints, matters related to applicable legal requirements or other requirements to which the organizations subscribes, past environmental or related incidents and accidents,
- c) gathering information related to current management practices, such as
 - 1) process controls on purchasing hazardous chemicals,
 - 2) the storage and handling of chemicals (e.g. secondary containment; housekeeping, storage of incompatible chemicals),
 - 3) controls on fugitive emissions,
 - 4) waste disposal methods,
 - 5) emergency preparedness and response equipment,
 - 6) use of resources (e.g. use of office lights after working hours),
 - 7) vegetation and habitat protection during construction,
 - 8) temporal changes in processes (e.g. changes to crop rotation patterns affecting fertilizer discharges to water),
 - 9) environmental training programmes,
 - 10) review and approval process for operational control procedures, and
 - 11) completeness of monitoring records and/or ease in retrieving historical records.

The review can be conducted using checklists, process flowcharts, interviews, direct inspection and past and current measurements, results of previous audits or other reviews depending on the nature of the organization's activities, products and services. The results of the review should be documented so that it can be used to contribute to setting the scope and establishing or enhancing the organization's environmental management system, including its environmental policy.

4.2 Environmental policy An environmental policy establishes the principles of action for an organization. It sets the level of environmental responsibility and performance required of the organization, against which all subsequent actions will be judged. The policy should be appropriate to the environmental impacts of the organization's activities, products and services (within the defined scope of the environmental management system) and should guide the setting of objectives and targets.

A growing number of international organizations, including government, industry associations and citizens' groups, have developed guiding principles. Such guiding principles help organizations to define the overall scope of their commitment to the environment. They also help to give different organizations a common set of values. Guiding principles such as these can assist an organization in developing its policy, which can be as individual as the organization for which it is developed. The responsibility for setting environmental policy rests with an organization's top management. The environmental policy can be included in or linked with other policy documents of the organization. The organization's management is responsible for implementing the policy and for providing input to the formulation and modification of the policy. The policy should be communicated to all persons working for or on behalf of the organization. In addition, the policy should be made available to the public (see 4.4.3.2 for a discussion of external communication methods).

In developing its environmental policy, an organization should consider

- a) its mission, vision, core values and beliefs;
- b) coordination with other organizational policies (e.g. quality, occupational health and safety);
- c) the requirements of, and communication with, interested parties;
- d) guiding principles;
- e) specific local or regional conditions;
- f) its commitments to prevention of pollution and continual improvement;
- g) its commitment to comply with legal requirements and other requirements to which the organization subscribes.

Practical help—Environmental policy

The environmental policy should recognize that all activities, products and services within the defined scope of an organization's environmental management system can cause impacts on the environment.

The issues addressed in the policy therefore depend on the nature of the organization. The policy should state commitments to, among other things,

- a) comply with or exceed applicable legal requirements and other requirements to which the organization subscribes which relate to its environmental aspects,
- b) prevent pollution, (see *Practical help—Prevention of pollution*), and
- c) achieve continual improvement through the development of environmental performance evaluation procedures and associated indicators.

The policy might also include other commitments to

- d) minimize any significant adverse environmental impacts of new developments through the use of integrated environmental management procedures and planning,
- e) design products taking into account environmental aspects, and
- f) set an example of leadership in the field of environmental management.