

WELCOME!

to the

ISO 14001 - 2015 Upgrade Course

ISO 14001 History

- First issued by ISO in 1996
- Heavily based on BS 7750:1994
- Revised and reissued in 2004
- No significant changes, however, far more clarification of requirements
- The current review process commenced in 2011
- Major changes to structure and focus

History



Main Changes

- Format
- More Focus on Organisational “Context” and Stakeholders
- Life Cycle Approach
- Risks & Opportunities
- Management Responsibility
- Business Integration
- “Miscellaneous”

Generic ISO Format

- ISO has adopted a generic structure for ISO standards
- Described in Appendix 3, Annex SL of “ISO/IEC Directives, Part 1, Consolidated ISO Supplement — Procedures specific to ISO”

Annex SL High Level Structure

- Scope
- Normative References
- Terms and Definitions
- Context of the Organization
- Leadership
- Planning
- Support
- Operation
- Performance Evaluation
- Improvement

ISO 14001 - 2004 vs 2015

2004	2015
0. Introduction	0. Introduction
1. Scope	1. Scope
2. Normative references	2. Normative references
3. Terms and definitions	3. Terms and definitions
4. Environmental Management System (title only)	4. Context of the organization
	4.1. Understanding the organization and its context
	4.2. Understanding the needs and expectations of interested parties
4.1. General requirements	4.3. Determining the scope of the environmental management system
	4.4. Environmental Management System
4.2. Environmental Policy	5.2. Environmental Policy

ISO 14001 - 2004 vs 2015

2014	2015
4.3. Planning	6. Planning
	6.1. Actions to address risks and opportunities
	6.1.1. General
4.3.1. Environmental aspects	6.1.2. Identification of environmental hazards
	6.1.4. Determining significant environmental aspects and organizational risks and opportunities
4.3.2. Legal and other requirements	6.1.3. Determination of compliance obligations
4.3.3. Objectives, targets and programme(s)	6.2. Environmental objectives and planning to achieve them
	6.2.1. Environmental objectives
	6.2.2. Planning to achieve objectives
4.4. Implementation and operation (title only)	5. Leadership (title only)
	7. Support (title only)
	8. Operation (title only)

ISO 14001 - 2004 vs 2015

2014	2015
4.4.1. Resources, roles, responsibility and authority	5.1. Leadership and commitment
	5.3. Organizational roles, responsibilities and authorities
	7.1. Resources
4.4.2. Competence, training and awareness	7.2. Competence
	7.3. Awareness
4.4.3. Communication	7.4. Communication (title only)
	7.4.1. General
	7.4.2. Internal communication
	7.4.3. External communication and reporting
4.4.4. Documentation	7.5.1. General (Doc. Information)
4.4.5. Control of documentation	7.5.2. Creating and updating
	7.5.3. Control of documented information
4.4.6. Operational control	8.1. Operational planning and control

ISO 14001 - 2004 vs 2015

VCEC

2014	2015
4.4.7. Emergency preparedness and response	8.2. Emergency preparedness and response
4.5. Checking (title only)	9. Performance evaluation (title only)
4.5.1. Monitoring and measurement	9.1. Monitoring, measurement, analysis and evaluation (title only)
	9.1.1. General
4.5.2. Evaluation of compliance	9.1.2. Evaluation of compliance
4.5.3. Nonconformity, corrective action and	10.2. Nonconformity and corrective action preventive action
4.5.4. Control of records	7.5.2. Creating and Updating
	7.5.3. Control of documented information
4.5.5. Internal audit	9.2. Internal audit (9.2.1 & 9.2.3)
	9.2.1. General
	9.2.3. Internal Audit Programme
4.6. Management review	9.3. Management review
	10. Improvement (title only)
	10.1. General
	10.3. Continual Improvement

Plan-Do-Check-Act

VCEC

PLAN

- 4. Context of the organization
 - 4.1. Understanding the organization and its context
 - 4.2. Understanding the needs and expectations of interested parties
 - 4.3. Determining the scope of the environmental management system
 - 4.4. Environmental management system
- 5. Leadership
 - 5.1. Leadership and commitment
 - 5.2. Policy
 - 5.3. Organizational roles, responsibilities and authorities

Plan-Do-Check-Act

VCEC

PLAN (cont.)

- 6. Planning
 - 6.1. Actions to address risks and opportunities
 - 6.1.1. General
 - 6.1.2. Identification of environmental aspects
 - 6.1.3. Determination of compliance obligations
 - 6.1.4. Determining significant environmental aspects and organizational risks and opportunities
 - 6.1.5. Planning to take action
 - 6.2. Environmental objectives and planning to achieve them
 - 6.2.1. Environmental objectives
 - 6.2.2. Planning to achieve objectives

Plan-Do-Check-Act

DO

7. Support

- 7.1. Resources
- 7.2. Competence
- 7.3. Awareness
- 7.4. Communication
 - 7.4.1. General
 - 7.4.2. Internal communication
 - 7.4.3. External communication and reporting
- 7.5. Documented Information
 - 7.5.1. General
 - 7.5.2. Creating and updating
 - 7.5.3. Control of documented information

8. Operation

- 8.1. Operational planning and control
- 8.2. Emergency preparedness and response

Plan-Do-Check-Act

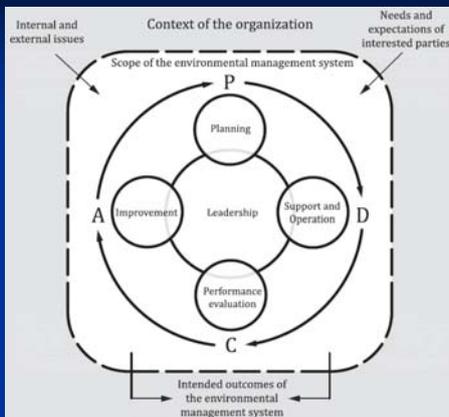
CHECK

- 9. Performance evaluation
 - 9.1. Monitoring, measurement, analysis and evaluation
 - 9.1.1. General
 - 9.1.2. Evaluation of compliance
 - 9.2. Internal Audit
 - 9.3. Management review

ACT

- 10. Improvement
 - 10.1. Nonconformity and corrective action
 - 10.2. Continual Improvement

Plan-Do-Check-Act



ISO14001:2015 Figure 1

Definitions

interested party

- person or *organization* (3.1.4) that can affect, be affected by, **or perceive itself to be affected** by a decision or activity
- Note 1 to entry: To “perceive itself to be affected” means the perception has been made known to the organization.
- EXAMPLE Customers, communities, suppliers, regulators, non-governmental organizations, investors and employees.

Definitions

objective

- result to be achieved
- Note 1 to entry: An objective can be strategic, tactical, or operational.
- Note 2 to entry: Objectives can relate to different disciplines (such as financial, health and safety, and environmental goals) and can apply at different levels (such as strategic, organization-wide, project, product, service and *process* (3.3.5)).
- Note 3 to entry: An objective can be expressed in other ways, e.g. as an intended outcome, a purpose, an operational criterion, as an *environmental objective* (3.2.6), **or by the use of other words with similar meaning (e.g. aim, goal, or target).**

Definitions

compliance obligations (preferred term)

- legal requirements and other requirements (admitted term)
- *legal requirements* (3.2.8) that an *organization* (3.1.4) has to comply with and other requirements that an organization has to or chooses to comply with
- Note 1 to entry: Compliance obligations are related to the *environmental management system* (3.1.2).
- Note 2 to entry: Compliance obligations can arise from mandatory requirements, such as applicable laws and regulations, or voluntary commitments, such as organizational and industry standards, contractual relationships, codes of practice and agreements with community groups or non-governmental organizations.

Definitions

risks and opportunities

- potential adverse effects (threats) and potential beneficial effects (opportunities)

life cycle

- consecutive and interlinked stages of a product (or service) system, from raw material acquisition or generation from natural resources to final disposal
- **Note 1 to entry:** The life cycle stages include acquisition of raw materials, design, production, transportation/delivery, use, end-of-life treatment and final disposal.

Definitions

outsource (verb)

- make an arrangement where an external *organization* (3.1.4) performs part of an organization's function or *process* (3.3.5)
- **Note 1 to entry:** An external organization is outside the scope of the *management system* (3.1.1), although the outsourced function or process is within the scope.

4. Context of the Organisation

4.1 Understanding the organization and its context

The organization shall determine external and internal issues that are relevant to its purpose and that affect its ability to achieve the intended outcomes of its environmental management system. Such issues shall include environmental conditions being affected by or capable of affecting the organization.

4.1 Understanding the Organization ^{VCEC} and its Context – (Interpretation)

An organisation must identify the important issues that can affect the ability to manage environmental issues. The issues can be internal or external and the affect can be positive or negative, e.g.:

- current level of impact on air, water, soil, etc.
- ability of the environment to absorb impacts
- local issues such as community concerns, endangered species, protected wetlands
- organisational culture and community culture
- available internal skills
- financial circumstances

Context may change over time and needs to be monitored

- The need to formally determine the organisational context is a new requirement

4.2 Understanding the Needs and ^{VCEC} Expectations of Interested Parties

The organization shall determine:

- a) the interested parties that are relevant to the environmental management system;
- b) the relevant needs and expectations (i.e. requirements) of these interested parties;
- c) which of these needs and expectations become its compliance obligations.

4.2 Understanding the Needs and ^{VCEC} Expectations of Interested Parties – (Interpretation)

An organisation **must** identify the interested parties - **new**:

- Community
- Interest groups
- Neighbouring companies
- Regulators
- Employees

What does each interested party need or expect? - **new**

Which of these needs or expectation are legal requirements or become a formal “other” requirement? - **new**

4.3 Determining the Scope of the Environmental Management System VCEC

The organization shall determine the boundaries and applicability of the environmental management system to establish its scope.

When determining this scope, the organization shall consider:

- a) the external and internal issues referred to in 4.1;
- b) the compliance obligations referred to in 4.2;
- c) its organizational unit(s), function(s), and physical boundaries;
- d) its activities, products and services;
- e) its authority and ability to exercise control and influence.

4.3 Determining the Scope of the Environmental Management System – VCEC (Interpretation)

- The scope is the physical boundaries and operational activities included in the system
- The scope is flexible, but should not be used to exclude high risk areas or avoid compliance obligations
- The scope should be credible and justifiable given the:
 - context issues identified
 - the compliance obligations
 - the significant environmental impacts
 - the ability to control or influence the issues

- No significant change, but it is now in the body of the standard and issues to consider are explicitly stated

4.4 Environmental Management System VCEC

To achieve the intended outcomes, including enhancing its environmental performance, the organization shall establish, implement, maintain and continually improve an environmental management system, including the processes needed and their interactions, in accordance with the requirements of this International Standard.

The organization shall consider the knowledge gained in 4.1 and 4.2 when establishing and maintaining the environmental management system.

4.4 Environmental Management System ^{VCEC}

– (Interpretation)

When developing, implementing and maintaining an EMS, organisations must consider:

- the internal and external issues that can affect the implementation of the EMS (both positive and negative) – may have been included in the past, but this is a **new requirement for a formal assessment**
- the wants and needs of interested parties – may have been included in the past, but this is a **new requirement for a formal assessment**

5. Leadership ^{VCEC}

5.1 Leadership and commitment

Top management shall demonstrate leadership and commitment with respect to the environmental management system by:

- a) taking accountability for the effectiveness of the environmental management system;
- b) ensuring that the environmental policy and environmental objectives are established and are compatible with the strategic direction and the context of the organization;
- c) ensuring the integration of the environmental management system requirements into the organization's business processes;
- d) ensuring that the resources needed for the environmental management system are available;
- e) communicating the importance of effective environmental management and of conforming to the environmental management system requirements;
- f) ensuring that the environmental management system achieves its intended outcomes;
- g) directing and supporting persons to contribute to the effectiveness of the environmental management system;
- h) promoting continual improvement;
- i) supporting other relevant management roles to demonstrate their leadership as it applies to their areas of responsibility.

5.1 Leadership and Commitment – ^{VCEC}

(Interpretation)

- Top management can delegate duties, but retains **accountability** for the EMS's effectiveness. Expectation that they take action if EMS is underperforming or other on-going issues – no significant change, but makes it explicit
- More integration into business systems:
 - policy and objectives to reflect company's strategic directions and context
 - Integration of EMS into business processes - **new**
- Provide resources to operate the EMS – no change

5.1 Leadership and Commitment – ^{VCEC} (Interpretation)

- Communicate importance of complying with the EMS – typically carried out during training – no change
- Ensure EMS meets intended outcome – normally reviewed during the Management Review – no change
- Directing and supporting persons and management – no change
- Promoting continual improvement – through Policy and Objectives – no change

5.2 Environmental Policy ^{VCEC}

Top management shall establish, implement and maintain an environmental policy that, within the defined scope of its environmental management system:

- a) is appropriate to the purpose and context of the organization, including the nature, scale and environmental impacts of its activities, products and services;
- b) provides a framework for setting environmental objectives;
- c) includes a commitment to the protection of the environment, including prevention of pollution and other specific commitment(s) relevant to the context of the organization;
- d) includes a commitment to fulfill its compliance obligations;
- e) includes a commitment to continual improvement of the environmental management system to enhance environmental performance.

The environmental policy shall:

- be maintained as documented information;
- be communicated within the organization;
- be available to interested parties.

5.2 Environmental Policy – ^{VCEC} (Interpretation)

- Policies must consider the organisational purpose, context and impacts and include “other specific commitment(s) relevant to the context of the organization” i.e. “one-size-fits-all” policies are not appropriate – not new, but in the body of the standard, instead of being in the explanatory guide
- Framework for Objectives – no change
- Includes a commitment to protect the environment, not just preventing pollution – new, as it reinforces actions such as resource reduction
- Meet compliance obligations – no change
- Commitment to continual improvement – no change
- Policy maintained, communicated and available to interested parties – no change

5.3 Organizational Roles, Responsibilities and Authorities

VCEC

Top management shall ensure that the responsibilities and authorities for relevant roles are assigned and communicated within the organization.

Top management shall assign the responsibility and authority for:

- a) ensuring that the environmental management system conforms to the requirements of this International Standard;
- b) reporting on the performance of the environmental management system, including environmental performance, to top management.

5.3 Organizational Roles, Responsibilities and Authorities – (Interpretation)

VCEC

The title of “Management Representative” has been removed, however, the need for management to appoint someone to carry out the functions is still there – *effectively the same*

The title Management Representative, or any other title, can be used for this position or positions.

6. Planning

VCEC

6.1 Actions to Address Risks and Opportunities

6.1.1 General

The organization shall establish, implement and maintain the processes needed to meet the requirements in 6.1.1 to 6.1.4.

When planning for the environmental management system, the organization shall consider:

- (a) the issues referred to in 4.1;
- (b) the requirements referred to in 4.2;
- (c) the scope of its environmental management system;

and determine the risks and opportunities, related to its, environmental aspects (see 6.1.2), compliance obligations (see 6.1.3) and other issues and requirements, identified in 4.1 and 4.2 that need to be addressed to:

- give assurance that the environmental management system can achieve its intended outcomes;
- prevent, or reduce, undesired effects, including the potential for external environmental conditions to affect the organization;
- achieve continual improvement.

Within the scope of the environmental management system, the organization shall determine potential emergency situations, including those that can have an environmental impact.

The organization shall maintain documented information of its:

- risks and opportunities that need to be addressed;
- processes needed in 6.1.1 to 6.1.4, to the extent necessary to have confidence they are carried out as planned.

6.1.1 General – (Interpretation) VCEC

Organisations need to have a documented process/s to:

- identify and assess its Environmental Aspects
- identify and maintain its compliance obligations and
- develop its action plans

The process needs to identify and document the risks **and opportunities** of each and consider the organisational context and the views of interested parties within the scope of the EMS.

The process must protect the environment, achieve the Policy objectives and result in continual improvement of the EMS and the organisation's environmental performance – effectively no change

Risks and “Opportunities” – (Interpretation) VCEC

The term “Risks” is well understood. However, the term “Opportunities” is new. Opportunities can look at issues not identified as a risk and can be site based or strategic, for example:

- Opportunities to further reduce low risk impacts
- Availability of on-site skills to improve performance further
- Means to improved working culture and therefore performance
- Cost reduction (reduction in material use, energy or waste)
- Improved community relations
- Improved product marketing (local and overseas)
- Ability to, or easier submission of Government tenders

6.1.2 Environmental Aspects VCEC

Within the defined scope of the environmental management system, the organization shall determine the environmental aspects of its activities, products and services that it can control and those that it can influence, and their associated environmental impacts, considering a life cycle perspective.

When determining environmental aspects, the organization shall take into account:

- a) change, including planned or new developments, and new or modified activities, products and services;
- b) abnormal conditions and reasonably foreseeable emergency situations.

The organization shall determine those aspects that have or can have a significant environmental impact, i.e. significant environmental aspects, by using established criteria. The organization shall communicate its significant environmental aspects among the various levels and functions of the organization, as appropriate.

The organization shall maintain documented information of its:

- environmental aspects and associated environmental impacts;
- criteria used to determine its significant environmental aspects;
- significant environmental aspects.

NOTE Significant environmental aspects can result in risks and opportunities associated with either adverse environmental impacts (threats) or beneficial environmental impacts (opportunities).

6.1.2 Environmental Aspects – ^{VCEC} (Interpretation)

Very similar requirements apart from **considering a “life cycle perspective”**.

Therefore, the EMS scope should include:

- Raw materials
- Energy sources
- Transportation of raw materials to site
- Distribution to the customer or to market
- Packaging
- Impacts during product use
- End of life impacts

Does not require a full Life Cycle Analysis, but obvious issues and those easily changed should be included.

6.1.3 Compliance Obligations ^{VCEC}

The organization shall:

- a) determine and have access to the compliance obligations related to its environmental aspects;
- b) determine how these compliance obligations apply to the organization;
- c) take these compliance obligations into account when establishing, implementing, maintaining and continually improving its environmental management system.

The organization shall maintain documented information of its compliance obligations.

NOTE Compliance obligations can result in risks and opportunities to the organization.

6.1.3 Compliance Obligations – ^{VCEC} (Interpretation)

- Replaced the term “Legal and Other Requirements” with “Legal Obligations” – **no change**
- “Compliance obligations” is the preferred term, but “legal requirements and other requirements” is an admitted term (refer to definition) – **no change**
- Organisations need to determine how they apply to the organisation, rather than how they apply to the Aspects - **effectively no change**

6.1.4 Planning Action

VCEC

The organization shall plan:

- a) to take actions to address its:
 - 1) significant environmental aspects;
 - 2) compliance obligations;
 - 3) risks and opportunities identified in 6.1.1;
- b) how to:
 - 1) integrate and implement the actions into its environmental management system processes (see 6.2, Clause 7, Clause 8 and 9.1), or other business processes;
 - 2) evaluate the effectiveness of these actions (see 9.1).

When planning these actions, the organization shall consider its technological options and its financial, operational and business requirements.

6.1.4 Planning Action – (Interpretation)

VCEC

- Organisations need to develop action plans to address its significant aspects, legal obligations and risks and opportunities – no change to the process **apart from developing plans to realise opportunities as well as risk**
- Plans need to include how the actions will be integrated into the EMS (e.g. work instructions or engineering controls) **or other business processes** (e.g. tendering for works, contractor management, purchasing or training) – **all new**
- Evaluate the effectiveness – **repeated in monitoring, therefore, no change**
- Need to consider the organisation's resources and technological control options – **no change**

6.2 Environmental Objectives and Planning to Achieve Them

VCEC

6.2.1 Environmental objectives

The organization shall establish environmental objectives at relevant functions and levels, taking into account the organization's significant environmental aspects and associated compliance obligations, and considering its risks and opportunities.

The environmental objectives shall be:

- a) consistent with the environmental policy;
- b) measurable (if practicable);
- c) monitored;
- d) communicated;
- e) updated as appropriate.

The organization shall maintain documented information on the environmental objectives.

6.2.1 Environmental Objectives – ^{VCEC} (Interpretation)

- The term “Targets” has been removed – *changed terminology*
- Objectives are to be measurable - *i.e. Objectives include the former Target*
- No other change to the process

6.2.2 Planning Actions to Achieve ^{VCEC} Environmental Objectives

When planning how to achieve its environmental objectives, the organization shall determine:

- a) what will be done;
- b) what resources will be required;
- c) who will be responsible;
- d) when it will be completed;
- e) how the results will be evaluated, including indicators for monitoring progress toward achievement of its measurable environmental objectives (see 9.1.1).

The organization shall consider how actions to achieve its environmental objectives can be integrated into the organization’s business processes.

6.2.2 Planning Actions to Achieve ^{VCEC} Environmental Objectives – (Interpretation)

The development of plans is very similar to previous apart from:

- Listing the required resources – *new explicit requirement to include funding, personnel, materials, etc*
- A time period for completion – *was assumed, but is now explicitly stated*
- Including performance indicator to monitor progress – *new explicit requirement*
- Considering how the actions will be integrated into the organisation’s business processes – *new requirement*

7 Support

7.1 Resources

The organization shall determine and provide the resources needed for the establishment, implementation, maintenance and continual improvement of the environmental management system.

Self explanatory and effectively no change

7.2 Competence

The organization shall:

- a) determine the necessary competence of person(s) doing work under its control that affects its environmental performance and its ability to fulfill its compliance obligations;
- b) ensure that these persons are competent on the basis of appropriate education, training or experience;
- c) determine training needs associated with its environmental aspects and its environmental management system;
- d) where applicable, take actions to acquire the necessary competence, and evaluate the effectiveness of the actions taken.

NOTE Applicable actions can include, for example, the provision of training to, the mentoring of, or the reassignment of currently employed persons; or the hiring or contracting of competent persons.

The organization shall retain appropriate documented information as evidence of competence.

7.2 Competence – (Interpretation)

- Introduced the term “training needs” – no effective change to the process
- There is a need to evaluate competence – **makes the need to assess competence more explicit**
- Provides guidance on how training can be provided (e.g. mentoring) – not a requirement
- Organisations to retain evidence of competency – **new requirement**

7.3 Awareness

VCEC

The organization shall ensure that persons doing work under the organization's control are aware of:

- a) the environmental policy;
- b) the significant environmental aspects and related actual or potential environmental impacts associated with their work;
- c) their contribution to the effectiveness of the environmental management system, including the benefits of enhanced environmental performance;
- d) the implications of not conforming with the environmental management system requirements, including not fulfilling the organization's compliance obligations.

- Effectively the same, no new requirements

7.4 Communication

VCEC

7.4.1 General

The organization shall establish, implement and maintain the processes needed for internal and external communications relevant to the environmental management system, including:

- a) on what it will communicate;
- b) when to communicate;
- c) with whom to communicate;
- d) how to communicate.

When establishing its communication process(es), the organization shall:
— take into account its compliance obligations;
— ensure that environmental information communicated is consistent with information generated within the environmental management system, and is reliable.

The organization shall respond to relevant communications on its environmental management system.

The organization shall retain documented information as evidence of its communications, as appropriate.

7.4.1 General – (Interpretation)

VCEC

- Organizations to have processes defining what, when, who and how it will communicate, including legal reporting obligations – effectively the same, but more explicit
- Organisations to ensure information communicated internally and externally is correct and reliable i.e. undoctored – new requirement
- The organisation must respond to communications regarding its EMS – new requirement
- Retain documented information concerning internal and external communication – new requirement

7.4.2 Internal Communication

The organization shall:

- a) internally communicate information relevant to the environmental management system among the various levels and functions of the organization, including changes to the environmental management system, as appropriate;
- b) ensure its communication process(es) enable(s) persons doing work under the organization's control to contribute to continual improvement.

7.4.2 Internal Communication

- Organisations to communicate information regarding its EMS and any changes internally to all relevant levels.
- Develop a process/s so all personnel “under the organisation’s control” (i.e. worker and contractors) can contribute to continual improvement, i.e. a process allowing feedback and suggestions to be made – **new requirement**

7.4.3 External Communication

The organization shall externally communicate information relevant to the environmental management system, as established by the organization's communication process(es) and as required by its compliance obligations.

- Self explanatory, no new requirements

7.4.3 External Communication

- The organisation should develop and implement a processes for external communication, including regulatory reporting – *no change*

Note: The requirement in the previous version, to consider whether or not to provide information concerning it's significant environmental aspects to external parties and record the decision, has been removed.

7.5 Documented information

7.5.1 General

The organization's environmental management system shall include:

- a) documented information required by this International Standard;
- b) documented information determined by the organization as being necessary for the effectiveness of the environmental management system.

NOTE The extent of documented information for an environmental management system can differ from one organization to another due to:

- the size of organization and its type of activities, processes, products and services;
- the need to demonstrate fulfillment of its compliance obligations;
- the complexity of processes and their interactions;
- the competence of persons doing work under the organization's control.

7.5.1 General – (Interpretation)

- Organisations to prepare system documentation where required by the Standard and where the organisation feels it is necessary in order to effectively operate the EMS.
 - The level of documentation varies from one organisation to another
- *effectively no change*

7.5.2 Creating and Updating

When creating and updating documented information, the organization shall ensure appropriate:

- a) identification and description (e.g. a title, date, author, or reference number);
- b) format (e.g. language, software version, graphics) and media (e.g. paper, electronic);
- c) review and approval for suitability and adequacy.

- Self explanatory and effectively no change

7.5.3 Control of Documented Information

Documented information required by the environmental management system and by this International Standard shall be controlled to ensure:

- a) it is available and suitable for use, where and when it is needed;
- b) it is adequately protected (e.g. from loss of confidentiality, improper use, or loss of integrity).

For the control of documented information, the organization shall address the following activities as applicable:

- distribution, access, retrieval and use;
- storage and preservation, including preservation of legibility;
- control of changes (e.g. version control);
- retention and disposition.

Documented information of external origin determined by the organization to be necessary for the planning and operation of the environmental management system shall be identified, as appropriate, and controlled.

NOTE Access can imply a decision regarding the permission to view the documented information only, or the permission and authority to view and change the documented information.

7.5.3 Control of Documented Information – (Interpretation)

- A document control processes to be developed, which is effectively the same as in the previous version

Note: The previous version required the most recent amendments to a document to be identifiable. However, the new version simply refers to the “control of changes (e.g. version control)”.

8 Operation

VCEC

8.1 Operational planning and control

The organization shall establish, implement, control and maintain the processes needed to meet environmental management system requirements, and to implement the actions identified in 6.1 and 6.2, by:

- establishing operating criteria for the process(es);
- implementing control of the process(es), in accordance with the operating criteria.

NOTE Controls can include engineering controls and procedures. Controls can be implemented following a hierarchy (e.g. elimination, substitution, administrative) and can be used individually or in combination.

The organization shall control planned changes and review the consequences of unintended changes, taking action to mitigate any adverse effects, as necessary.

The organization shall ensure that (an) outsourced process(es) is (are) controlled or influenced. The type and extent of control or influence to be applied to the process(es) shall be defined within the environmental management system.

Consistent with a life cycle perspective, the organization shall:

- establish controls, as appropriate, to ensure that its environmental requirement(s) is (are) addressed in the design and development process for the product or service, considering each stage of its life cycle;
- determine its environmental requirement(s) for the procurement of products and services, as appropriate;
- communicate its relevant environmental requirement(s) to external providers, including contractors;
- consider the need to provide information about potential significant environmental impacts associated with the transportation or delivery, use, end-of-life treatment and final disposal of its products and services.

The organization shall maintain documented information to the extent necessary to have confidence that the process(es) has (have) been carried out as planned.

8.1 Operational Planning and Control – VCEC

(Interpretation)

- Controls are to be developed and implemented to minimise environmental impacts due to the identified Aspects and to implement the organisations objectives and plans. – no effective change
- The controls can follow the hierarch of elimination, substitution and administrative – **new requirement**
- Planned changes shall be controlled and monitored to ensure there are no unintended consequences, which should be redressed (i.e. process change controls) – **new requirement**
- Contracted services should be controlled as far as practical and the controls documented in the EMS – effectively the same, but more explicit

8.1 Operational Planning and Control – VCEC

(Interpretation) - continued

- The controls are to reflect a life cycle approach and needs to consider, as appropriate, each of the product or service life cycle stages i.e. the design, procurement, development, manufacturing, transportation, use, end of life and disposal. – **new requirement**
- Organisations to consider if and what information to provided to external parties about the potential significant environmental impacts during the transportation, delivery, use, end of life treatment and final disposal of its products. – **new requirement**
- The processes and controls need to be sufficiently documented to ensure the efficient implementation of the processes. – Effectively the same

8.2 Emergency Preparedness and Response ^{VCEC}

The organization shall establish, implement and maintain the processes needed to prepare for and respond to potential emergency situations identified in 6.1.1.

The organization shall:

- a) prepare to respond by planning actions to prevent or mitigate adverse environmental impacts from emergency situations;
- b) respond to actual emergency situations;
- c) take action to prevent or mitigate the consequences of emergency situations, appropriate to the magnitude of the emergency and the potential environmental impact;
- d) periodically test the planned response actions, where practicable;
- e) periodically review and revise the process(es) and planned response actions, in particular after the occurrence of emergency situations or tests;
- f) provide relevant information and training related to emergency preparedness and response, as appropriate, to relevant interested parties, including persons working under its control.

The organization shall maintain documented information to the extent necessary to have confidence that the process(es) is (are) carried out as planned.

8.2 Emergency Preparedness and Response – (Interpretation) ^{VCEC}

- Organisations must prepare for and run trials in order to respond to emergency events and mitigate environmental impacts – effectively no change.
- Organisations must provide information and training, as appropriate, to interested parties, including their own workers. Interested parties can include external emergency services or neighbours. Examples of this may include provisions of information on site hazards and joint trials with emergency services and/or neighbours - **New requirement**

9 Performance Evaluation ^{VCEC}

9.1 Monitoring, measurement, analysis and evaluation

9.1.1 General

The organization shall monitor, measure, analyse and evaluate its environmental performance.

The organization shall determine:

- a) what needs to be monitored and measured;
- b) the methods for monitoring, measurement, analysis and evaluation, as applicable, to ensure valid results;
- c) the criteria against which the organization will evaluate its environmental performance, and appropriate indicators;
- d) when the monitoring and measuring shall be performed;
- e) when the results from monitoring and measurement shall be analysed and evaluated.

The organization shall ensure that calibrated or verified monitoring and measurement equipment is used and maintained, as appropriate.

The organization shall evaluate its environmental performance and the effectiveness of the environmental management system.

The organization shall communicate relevant environmental performance information both internally and externally, as identified in its communication process(es) and as required by its compliance obligations.

The organization shall retain appropriate documented information as evidence of the monitoring, measurement, analysis and evaluation results.

9.1.1 General – (Interpretation)

- Organisations shall determine what, how and when they will monitor, analyse and evaluate their environmental performance and what they will assess their performance against – no change
- Equipment to be calibrated – no change
- Organisations to assess the performance of their EMS and communicate monitoring results as required internally and externally – effectively no change
- Monitoring results to be documented – **New requirement**, but in reality not new to most organisations

9.1.2 Evaluation of Compliance

The organization shall establish, implement and maintain the processes needed to evaluate fulfilment of its compliance obligations.

The organization shall:

- a) determine the frequency that compliance will be evaluated;
- b) evaluate compliance and take action if needed;
- c) maintain knowledge and understanding of its compliance status.

The organization shall retain documented information as evidence of the compliance evaluation result(s).

9.1.2 Evaluation of Compliance – (Interpretation)

- Organisations to determine how often it will evaluate its compliance obligations, take action if it isn't complying and ensure management is aware of its compliance or non-compliance – no effective change
- The compliance review is to be documented – **New requirement**, but in reality not new to most organisations

9.2 Internal Audit

VCEC

9.2.1 General

The organization shall conduct internal audits at planned intervals to provide information on whether the environmental management system:

- a) conforms to:
 - 1) the organization's own requirements for its environmental management system;
 - 2) the requirements of this International Standard;
- b) is effectively implemented and maintained.

- Self explanatory and no effective change

9.2.2 Internal Audit Programme

VCEC

The organization shall establish, implement and maintain an internal audit programme(s), including the frequency, methods, responsibilities, planning requirements and reporting of its internal audits.

When establishing the internal audit programme, the organization shall take into consideration the environmental importance of the processes concerned, changes affecting the organization and the results of previous audits.

The organization shall:

- a) define the audit criteria and scope for each audit;
- b) select auditors and conduct audits to ensure objectivity and the impartiality of the audit process;
- c) ensure that the results of the audits are reported to relevant management.

The organization shall retain documented information as evidence of the implementation of the audit programme and the audit results.

9.2.2 Internal Audit Programme – (Interpretation)

VCEC

- No effective change to the planning and operation of the internal audit process
- Audits should consider the importance of the process, any changes to the organisation and previous audit results - **New requirement**, but most audit programs should already take this into account.
- Requirement to provide audit reports to management – effectively unchanged as this was and still is a requirement under management review.
- Audit and audit findings are to be documented – **New requirement**, but in reality not new to all organisations

9.3 Management Review

VCEC

9.3 Management review

Top management shall review the organization's environmental management system, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness.

The management review shall include consideration of:

- a) the status of actions from previous management reviews;
- b) changes in:
 - 1) external and internal issues that are relevant to the environmental management system;
 - 2) the needs and expectations of interested parties, including compliance obligations;
 - 3) its significant environmental aspects;
 - 4) risks and opportunities;
- c) the extent to which environmental objectives have been achieved;
- d) information on the organization's environmental performance, including trends in:
 - 1) nonconformities and corrective actions;
 - 2) monitoring and measurement results;
 - 3) fulfilment of its compliance obligations;
 - 4) audit results;

9.3 Management Review (cont.)

VCEC

- e) adequacy of resources;
- f) relevant communication(s) from interested parties, including complaints;
- g) opportunities for continual improvement.

The outputs of the management review shall include:

- conclusions on the continuing suitability, adequacy and effectiveness of the environmental management system;
- decisions related to continual improvement opportunities;
- decisions related to any need for changes to the environmental management system, including resources;
- actions, if needed, when environmental objectives have not been achieved;
- opportunities to improve integration of the environmental management system with other business processes, if needed;
- any implications for the strategic direction of the organization.

The organization shall retain documented information as evidence of the results of management reviews.

9.3 Management Review – (Interpretation)

VCEC

New inputs into the Management Review:

- changes to the needs and expectations of interested parties
- changes to the organisation's significant environmental aspects
- changes to the risks and opportunities and
- the adequacy of existing resources

- New Requirements

9.3 Management Review – (Interpretation) - continued

VCEC

Outputs from the Management Review:

- conclusions on the continuing suitability, adequacy and effectiveness of the environmental management system
- decisions related to continual improvement opportunities;
- decisions related to any need for changes to the resources required
- actions, if needed, when environmental objectives have not been achieved;
- opportunities to improve integration of the environmental management system with other business processes, if needed;
- any implications for the strategic direction of the organization

– Either new requirements or more explicit

10 Improvement

VCEC

10.1 General

The organization shall determine opportunities for improvement (see 9.1, 9.2 and 9.3) and implement necessary actions to achieve the intended outcomes of its environmental management system.

10.1 General – (Interpretation)

VCEC

Based on the results of the organisations’:

- monitoring results
- compliance evaluation
- internal audits and
- management reviews

the organisation will identify and implement opportunities for improvement – **New Requirement** (implied in previous version)

10.2 Nonconformity and Corrective ^{VCEC} Action

When a nonconformity occurs, the organization shall:

- a) react to the nonconformity and, as applicable:
 - 1) take action to control and correct it;
 - 2) deal with the consequences, including mitigating adverse environmental impacts;
- b) evaluate the need for action to eliminate the causes of the nonconformity, in order that it does not recur or occur elsewhere, by:
 - 1) reviewing the nonconformity;
 - 2) determining the causes of the nonconformity;
 - 3) determining if similar nonconformities exist, or could potentially occur;
- c) implement any action needed;
- d) review the effectiveness of any corrective action taken;
- e) make changes to the environmental management system, if necessary.

Corrective actions shall be appropriate to the significance of the effects of the nonconformities encountered, including the environmental impact(s).

The organization shall retain documented information as evidence of:

- the nature of the nonconformities and any subsequent actions taken;
- the results of any corrective action.

10.2 Nonconformity and Corrective ^{VCEC} Action – (Interpretation)

- The term “Preventative Action” has been removed. Corrective action now includes preventative measures “in order that it does not....occur elsewhere”
- An organisation must document:
 - the nature of the nonconformities and any actions taken;
 - the results of any corrective action.
- No effective change apart from the change in terminology and making documentation more explicit.

10.3 Continual improvement ^{VCEC}

The organization shall continually improve the suitability, adequacy and effectiveness of the environmental management system to enhance environmental performance.

- Effectively no change, but a new auditable criteria allowing an auditor to target and assess an organisation's level of continual improvement
