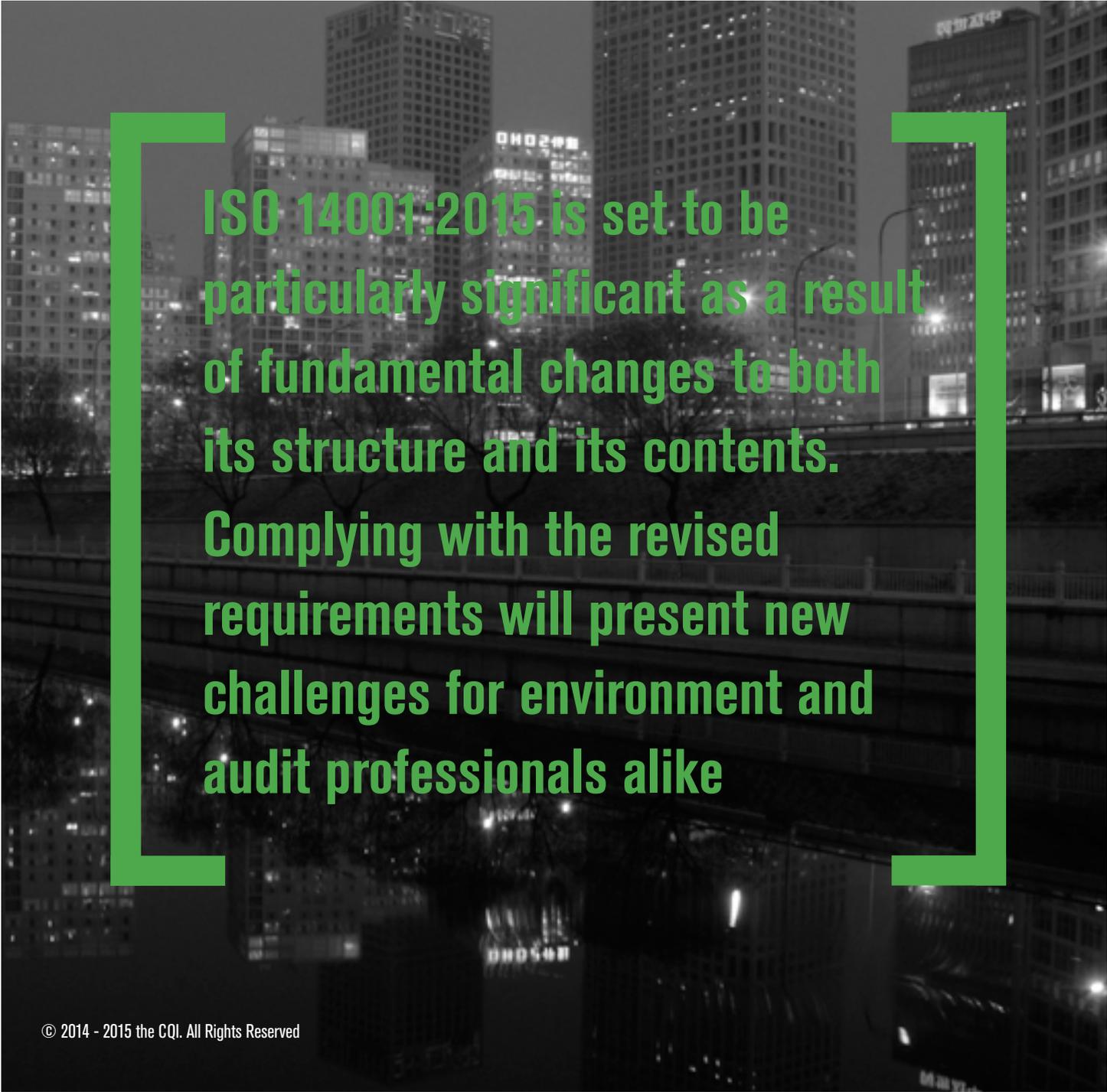




ISO 14001
2015
**UNDERSTANDING THE
INTERNATIONAL STANDARD**



ISO 14001:2015 is set to be particularly significant as a result of fundamental changes to both its structure and its contents. Complying with the revised requirements will present new challenges for environment and audit professionals alike

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Introduction



For more than 20 years, the International Organization for Standardization (ISO) has regularly conducted a survey that is designed to provide an insight into the worldwide adoption of ISO's management system standards.

The latest edition of the survey (2014) reveals a healthy growth across the board for all management system standards as at the end of 2013, with a total of 1.6 million certifications globally. One out of five of these certifications were against ISO 14001:2004; accordingly, any revision of ISO 14001 will have global implications based simply on numbers alone.

The 2015 release of ISO 14001, however, is set to be particularly significant as a result of fundamental changes to both its structure and its contents. Accordingly, complying with the revised requirements will present new challenges for organizations and environment and audit professionals alike.

There will also be new opportunities however. Many ISO 14001 certified organizations will also have ISO 9001:2015 compliant management systems. As both standards now share a 'core' of common requirements there are enhanced opportunities for system integration and, as a result, efficiencies.

2. PURPOSE OF THIS REPORT

This report examines the contents of the International Standard (ISO 14001:2015), translating each clause into 'plain language' before moving on to consider the implications of the clause from the perspective of those entrusted with overseeing the operation of their environmental management systems and those engaged in the audit of environmental management systems.

It is intended to assist both the Chartered Quality Institute (CQI) and International Register of Certificated Auditors (IRCA) members in preparing for the new standard – preparation that can and should begin now. The changes arising as a result of the adoption of Annex SL have been incorporated into ISO 14001:2015, and it is these changes that we believe will have the most significant impact for organizations and environment and audit professionals.

3. EXECUTIVE SUMMARY

3.1 What has happened?

The CQI has closely followed the work of Working Group 5 (WG5) within SC1/TC207, the ISO Technical Committee responsible for producing the new standard. Accordingly we have a specific insight into not only the contents of the new version but also the intent behind the content.

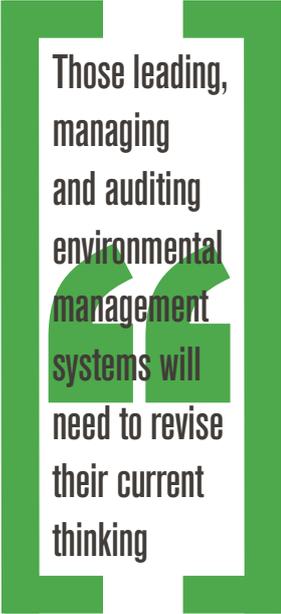
The International Standard ISO 14001:2015 was published in September 2015.

There has been some debate internationally about the implications of the proposed changes for both environmental and audit professionals. Some regard the changes as insignificant, taking the view that ISO 14001:2015 simply introduces a number of requirements that were previously implied in ISO 14001:2004 but that were not mandated.

The CQI and IRCA do not share this position. We remain convinced that those leading, managing and auditing environmental management systems (EMS) will need to revise their current thinking and work in different ways in order to maintain organizational compliance.



The CQI has closely followed the work of Working Group 5 within SC1/TC207, the ISO Technical Committee responsible for the standard



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3.2 Generic management systems requirements

The changes incorporated into ISO 14001:2015 can essentially be divided into those that have arisen as a result of the adoption of Annex SL as the basis for the standard and those that have arisen as a result of the desire to improve current environmental management specific requirements. However, this different origin of the requirements cannot be seen in the text of the standard, since the same font and format is used throughout the entire document.

In the preface to the CQI and IRCA Annex SL Briefing Note (available free of charge to CQI and IRCA members), we present an introduction to Annex SL. Its adoption has implications for all those using management system standards, be they organizations, standard writers, auditors or training providers.

ISO 14001:2015 adopts the format and terminology of Annex SL.

Annex SL was developed to ensure all future ISO management system standards would share a common format, irrespective of the specific discipline to which they relate. It prescribes a high-level structure, identical core text, and common terms and core definitions. This new structure means that even when requirements are essentially unchanged between ISO 14001:2004 and ISO 14001:2015, they are frequently found under a new clause/sub-clause heading.

Life has become easier for management system standard writers. With the generic requirements being prescribed by Annex SL they can now concentrate their efforts on developing the discipline-specific requirements only.

Organizations should find life easier too. Those seeking to introduce multiple management systems (eg environmental management, Health and Safety management, Energy management, Quality management etc) will have less work to do because the structure and the core requirements of these are identical. This will simplify both the initial implementation and the on-going maintenance of such systems.

For management system auditors, the adoption of Annex SL means that there is a generic set of requirements that need to be assessed when conducting management system audits, irrespective of the discipline that is being audited.

As a result of the above, we expect to see training organizations offering generic management system auditing courses as alternatives to their currently offered discipline-specific ones. Those auditors wishing to achieve sector-specific registration would then complete secondary modules to top up their earlier generic training.

IRCA has already advised IRCA-Approved Training Organizations to adopt such an approach when designing auditor transition training courses, and has reviewed and re-issued its core Foundation, Internal Auditor, Auditor/Lead Auditor and Auditor Conversion courses in August 2015.

While the adoption of Annex SL will ultimately benefit all those who make active use of management system standards, in the short term there will be challenges for those concerned with establishing, implementing, managing or auditing against ISO 14001:2015.

For those organizations already operating by the spirit of ISO 14001:2004, the transition to ISO 14001:2015 should prove relatively straightforward. By contrast, those organizations that are simply complying with the requirements of ISO 14001:2004 at the most basic level will be required to address other issues, most significantly the current culture and the operation of the organization at both a strategic and operational level.

Culture can be described as “the way things are done around here.” Changes within ISO 14001:2015 mean organizations will now need to review and if necessary refresh their current cultures. The behaviours of everyone connected with the environmental system, including those operating at the most senior levels, will come under increased scrutiny.

Culture change can be notoriously difficult to effect and it is primarily for this reason that the CQI and IRCA have taken the position that ISO 14001:2015 represents such a significant revision.

3.3 Environmental specific requirements

When developing ISO 14001:2015, WG5 work did not start with a blank page. Annex SL was already there, establishing the main framework of 10 clauses and several sub-clauses, with its prescribed core text as well as a set of common terms and core definitions.

Other inputs for the revision were:

- “internal brainstorming” among WG5 members to find common agreement on what the new edition should contain,
- a users world-wide survey to determine their needs and expectations, and
- the existing 2004 edition, to build upon its requirements.

The main environment specific additions were related to:

- a clear definition of the intended outcomes of the EMS
- internal and external communication
- life-cycle thinking
- stressing the need to improve the environmental performance of the organization.



The organization is required to identify any external and internal issues that may impact the ability of their EMS to deliver its intended outcomes

3.4 Summary of principal changes: Moving from ISO 14001:2004 to ISO 14001:2015

- **CONTEXT** (Clause 4) The organization is required to identify any external and internal issues that may impact the ability of their EMS to deliver its intended outcomes. These issues include any environmental condition that may affect or be affected by the organization. The organization is also required to determine the relevant needs and expectations of their relevant interested parties – ie, those individuals and organizations that can affect, be affected by, or perceive themselves to be affected by, the organization's decisions or activities.
- **LEADERSHIP** (Clause 5) Top management are required to demonstrate that they engage in key EMS activities as opposed to simply ensuring that these activities occur. This means there is a need for top management to be actively involved in the operation of their EMS and be accountable for its results. The removal of references to the role of "management representative" reinforces the requirement to see the EMS embedded into strategic and operational 'business as usual', rather than it being operated as an independent system in its own right, with its own specific management structure and processes.
- **RISK-BASED THINKING** (Clause 6) The organization must evidence that they have determined, considered and, where deemed necessary, taken action to address any risks and opportunities that may impact (either positively or negatively) their EMS's ability to deliver its intended outcomes.

Whilst references to 'preventive action' have disappeared the core concept of identifying and addressing potential mistakes before they happen very much remains.
- **COMMUNICATION** (Clause 7) Communication with interested parties plays an important role in an effective EMS. The organization needs to be sure that the information provided is consistent with the information generated within the EMS, that is 'that the organization is telling it 'as it is'.
- **LIFE CYCLE THINKING** (Clause 8) The organization needs to a) ensure that products are designed in a environmentally friendly manner, b) determine environmental requirements on products and services to be purchase and communicate them to the organization's suppliers, and c) provide relevant information to customers and users. There is no need however to carry out a formal and thorough life cycle assessment.
- **IMPROVEMENT** (Clause 10) This has been an issue in the previous editions of ISO 14001. Organizations have been required to improve their EMS in order to improve their environmental performance. Now, it has been recognised that these are two independent improvement actions; environmental performance can be improved by simply operating an EMS, it is not dependent on the EMS itself being improved. A Note also recognises that incremental (continual) improvement is not the only improvement profile. It acknowledges that improvement may also be realised as a result of periodic breakthroughs, reactive change or innovation.
- **TERMINOLOGY** (Clause 3) This clause contains the terms and definitions used in the standard, irrespective of whether they come from Annex SL or were added by WG5. ISO has made ISO 14001:2015 terms and definitions available online: <http://www.iso.org/obp>.
- **ANNEXES ISO 14001:2015** has two informative annexes. Annex A provides guidance on the use of the standard whilst annex B provides the correspondence between the 2015 and 2004 editions.
- **DOCUMENTED INFORMATION** References to requirements for documents and records have been replaced by the term "documented Information"; which has to be "maintained" in the case of documents and "retained" in the case of records.
- **CLARITY** There has been a conscious attempt to revisit the wording of the standard with a view to making the requirements easier to understand and to aid its translation.

3.5 Changes you do not need to make

Organizations do not need to:

- **REMOVE** their management representatives. While there is no requirement in ISO 14001:2015 for a management representative, this does not prevent organizations from choosing to retain this role if they so wish. Be aware, however, that some of the responsibilities traditionally assigned to the management representative by top management will, in future, need to be undertaken directly by top management themselves.
- **RELEGATE** their manuals and documented procedures to the dustbin. While ISO 14001:2015 has no requirement for organizations to have and use either an environmental manual or documented procedures, if this documentation is in place, needed and working well, there is no need for it to be withdrawn.
- **RENUMBER** or rename existing EMS documentation to correspond to the new clause references. Although an organization may choose to carry out a renumbering/rename exercise, it is up to them to determine whether the benefits gained from renumbering/rename will exceed the effort involved in actioning the change.
- **RESTRUCTURE** their management systems to follow the sequence of requirements as set out in the standard. Providing all of the requirements contained in the standard are met, the organization's EMS will be compliant.
- **REFRESH** existing practices to use the new terms and definitions contained within 14001:2015. Once again, organizations are free to make the judgement as to whether this effort would be worthwhile. If organizations are more comfortable using their own terminology, eg "records" instead of "documented information," or "supplier" rather than "external provider," then this is perfectly acceptable.

4. CLAUSE BY CLAUSE EVALUATION

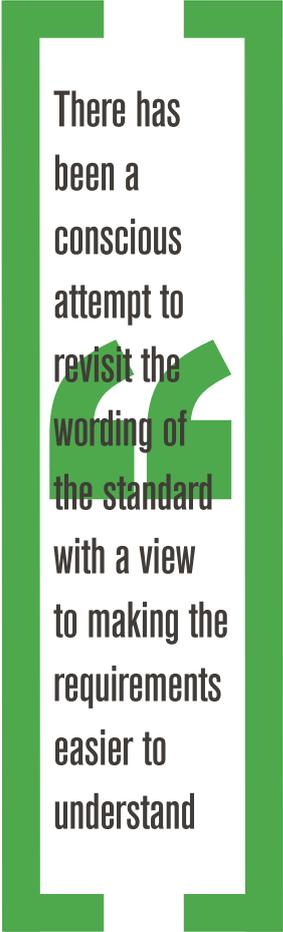
The interpretations of requirements contained within this document are those of the CQI and IRCA – other organizations may interpret the requirements of ISO 14001:2015 differently.

As such, this document should not be viewed as the definitive reference source for this International Standard; indeed, only documentation sourced by ISO/TC 207/SC1 can fulfil this purpose.

Neither the CQI nor IRCA are permitted to reproduce the exact wording of the standard due to copyright restrictions. Those individuals who need access to the exact wording should make their own arrangements to source the standard from a legitimate supplier.

This section of the report aims to:

- simplify the requirements of each clause of ISO 14001:2015 into language that is easier to understand;
- identify whether each requirement is a new requirement or an amended version of an existing ISO 14001:2004 requirement;
- identify the implications of the requirement for environment professionals (environmental managers, directors, system implementers);
- identify the implications of the requirement for audit professionals.



There has been a conscious attempt to revisit the wording of the standard with a view to making the requirements easier to understand

The purpose of ISO 14001:2015 is to provide organizations with a model that will allow them to build up environmental management systems

INTRODUCTION

0.1 Background

This clause reminds us that there is a wide umbrella called “sustainable development” supported by three pillars: Environment, Society and the Economy, which need to work in a coordinated way in order to meet the needs of present generations without compromising the ability of future generations to meet their own needs.

Society is exerting increasing pressure on organizations in relation to the environmental consequences of the inefficient use of resources, the creation of pollution and the loss of biodiversity. This has led organizations to adopt more systematic approaches to environmental management. Such an approach can be realised through the implementation of an environmental management system with the aim being to contribute to the environmental pillar of sustainability.

0.2 Aim of an EMS

The purpose of ISO 14001:2015 is to provide organizations with a model that will allow them to build up environmental management systems which protect the environment and which respond to changing environmental conditions in balance with socio-economic needs.

According to ISO 14001:2015, the implementation of an EMS can help organizations to contribute to sustainable development by protecting the environment, by mitigating the potential effects of environmental conditions on the organization, by ensuring fulfilment of compliance obligations and by adopting a life cycle perspective, whilst at the same time delivering financial and operational benefits.

0.3 Success factors

The key success factor of an effective EMS is its people. Commitment at all levels of an organization can realise benefits from opportunities and can mitigate the impacts from threats.

Top management are key to achieving these benefits and must recognise their role in effectively addressing environmental risks and opportunities, in integrating environmental management into the organization’s business, strategic direction and decision making and, most of all, by incorporating sound environmental governance into the organization’s overall management system.

Users of the standards must appreciate that the adoption of ISO 14001 does not necessarily guarantee optimal environmental performance. Two adopter organizations with similar activities may have different interested parties, may face different external and internal issues, may start implementing their EMS from different baselines and may wish to improve at different rates, and yet both conform to the requirements of ISO 14001.

0.4 Plan-Do-Check-Act model

ISO 14001 in its 1996 and 2004 editions was clearly structured following the P-D-C-A cycle (Plan-Do-Check-Act). This new edition follows the Annex SL structure, however, there is a clear relationship between both models.

The relationship can be seen as follows:

- PLAN is in clause 6
- DO in clause 7 and 8
- CHECK in clause 9
- IMPROVEMENT in clause 10.

Clause 4 represents the EMS itself and its constraints (internal and external issues and the requirements of interested parties) and Clause 5 represents the Leadership “engine” that allows the P-D-C-A cycle to go around.

0.5 Contents of this International Standard

The content of ISO 14001:2015 is comprised of text drawn down directly from Annex SL and text added in by ISO TC207/SC1/WG5.

In addition to the 10 main clauses, there are two annexes: Annex A which provides guidance to prevent misinterpretation of the requirements of the standard, and Annex B which contains a correspondence matrix between the requirements of ISO 14001:2015 and those of ISO 14001:2004.

There is a section called Bibliography, which makes reference to all other ISO standards related to ISO 14001, followed by an Alphabetic Index of Terms

Any organization that wishes to demonstrate conformity with ISO 14001:2015 can make a self-determination and self declaration, can seek confirmation of its conformance by parties having an interest in the organization, can have its self-declaration reviewed by third parties, or can seek certification of its EMS by third parties.

1 SCOPE

This clause lays down the foundation of an EMS: the intended overall and high-level outcomes the organization expects to achieve from its implementation, maintenance and improvement. As a minimum, the outcomes should be: enhancement of environmental performance, fulfillment of compliance obligations and achievement of environmental objectives; nevertheless, organizations can set additional intended outcomes for their EMS if they so wish.

The intended outcomes are referenced in key clauses of the standard:

- in 4.1, where the issues that need to be determined are those that affect the organization's ability to achieve its intended outcomes
- in 4.4, stressing again the main purpose of the EMS: to achieve the organization's intended outcomes
- in 5.1, where top management is actually required to ensure that the EMS achieves the organization's intended outcomes
- in 6.1, where the risks and opportunities that need to be addressed are those that give assurance that the EMS can achieve the organization's intended outcomes
- in 10.1, where the improvement actions are those necessary to achieve the organization's intended outcomes.

This clause clarifies that this standard can be used in whole or in part to improve environmental management. However, claims of conformity with the standard can only be made when all its requirements are incorporated into the EMS. In other words, exclusions are not permitted.

The clause A.1 makes reference to "management of change." Whilst this wording does not appear as a sub-clause title the concept is embedded throughout the standard (eg: 6.1.2, 7.4.2, 8.1, 9.3).

Planned and unplanned changes should be managed under the umbrella of the EMS in order to prevent any unintended consequences adversely affecting the ability of the organization to achieve its intended outcomes.

There are a few definitions that need to be considered in order to fully understand the requirements in which they are used

2 NORMATIVE REFERENCES

There are no normative references applicable to this standard; in other words, there is no other standard or document that contains requirements in addition to those included in the main text (clauses 4 to 10).

3 TERMS AND DEFINITIONS

This clause contains the common terms and core definitions included in Annex SL plus those terms and definitions added to complement the environmental specific text drafted by ISO TC207/SC1/WG5.

There are some definitions that are self-explanatory and can be used straightaway. However, there are a few that need to be considered in order to fully understand the requirements in which they are used. These definitions are referenced in the relevant clauses below.

Annex A.3 contains a set of every day language terms (that are also analysed throughout this report), in order to ensure their correct interpretation when implementing or auditing environmental management systems in accordance with ISO 14001:2015.

4 CONTEXT OF THE ORGANIZATION

4.1 Understanding the organization and its context

► INTERPRETATION:

This is a new clause in ISO 14001:2015. It requires organizations to identify, review and keep updated, internal and external issues that are relevant to its purpose, and that have the ability to impact the environmental management system's intended outcomes.

External issues may be, for example, political, economic, financial, competitive matters that can represent a threat or opportunity to the organization.

External issues include environmental conditions, which are defined in Clause 3 as "state or characteristic of the environment as determined at a certain point in time". Examples include: water quality, climate, natural resources availability).

An environmental condition can affect or be affected by the organization. This two-way relationship is now clearly stated in the standard, whereas it was somewhat hidden in the 2004 edition.

Internal issue could include, for example, activities, products, services, strategies and capabilities that can represent a strength or a weakness of the organization.

Out of all these issues determined by the organization, some may result in risks and opportunities to the organization. It needs to determine which ones pose a potential risk or opportunity and must take action to address them (clause 6.1).

► IMPLICATIONS FOR ENVIRONMENT PROFESSIONALS:

Most organizations will already be successfully monitoring internal and external issues that have the potential to affect not only their EMS but also the whole organization.

The standard now however requires the organization to additionally use this knowledge to establish the scope of the EMS, to design, implement and continually improve its EMS, and to determine EMS associated risks and opportunities.

Environmental professionals will be called on to share their knowledge of the organization's context with top management. This represents a good opportunity for environmental professionals to establish dialogue with top management if these exchanges do not currently take place.

► **IMPLICATIONS FOR AUDIT PROFESSIONALS:**

Auditors will need to allow additional time to prepare for audits in order to establish their understanding of the context that auditee organizations are operating in. They will need to understand the external and internal issues typically experienced in organizations of that type, and must be prepared and able to challenge an organization if they believe the organization's interpretation of their context is deficient or incorrect.

Evidence needs to be obtained to provide assurance that organizations are regularly reviewing and updating regularly their external and internal issues. Auditors will face a challenge to do this if the organization decides not to maintain documented information on the issues. Remember – they do not have to.

4.2 Understanding the needs and expectations of interested parties

► **INTERPRETATION:**

This is another new clause introduced in ISO 14001:2015.

In the 2004 edition, there was a general concern for all interested parties coupled with a few references in the requirements sections: ie objectives to take into account the 'views of interested parties' and 'communications with interested parties'.

The 2015 edition has gone much far than this. It requires the organization to determine, review and monitor regularly information on the relevant requirements of relevant interested parties. The term "relevant" has to be read as "pertinent to the EMS" and it is the organization, not the auditor, who decides who is relevant and who is not.

There are two types of these relevant requirements: a) those that are obligatory and b) those that organization voluntarily agrees to comply with. All these requirements are called "compliance obligations"; a term that takes the place of "legal requirements and other requirements the organization subscribes to" which is contained in the 2004 edition.

Compliance obligations are defined in Clause 3 as: "legal requirements that an organization has to comply with and other requirements that an organization has to or chooses to comply with". Examples may be mandatory requirements, such as applicable laws and regulations or mandates from the upper levels of the organization, or voluntary commitments, such as organizational and industry standards, contractual relationships, codes of practice and agreements with community groups or non governmental organizations.

► **IMPLICATIONS FOR ENVIRONMENT PROFESSIONALS:**

Interested parties are groups or individuals who have the ability to affect, be affected or perceive themselves to be affected by a decision or activity of the organization (a much broader definition than the one included in the ISO 14001:2004).

Customers, shareholders, competitors, board members and suppliers are just a few examples of those that would fit into this classification. Each organization will have its own set of relevant interested parties and this set may change over time.

Knowledge of the relevant requirements of the relevant interested parties is required as an input into the definition of the scope of the EMS, in order to design, implement and continually improve its EMS, and in order to determine associated risks and opportunities.

► **IMPLICATIONS FOR AUDIT PROFESSIONALS:**

Auditors will need to allow additional time to prepare for audits in order to establish their understanding of the organization's relevant interested parties and their relevant requirements before starting the audit.



When defining the scope of its EMS, the organization needs to consider the internal and external issues it faces

Evidence needs to be obtained to provide assurance that organizations are reviewing and updating regularly their interested parties portfolio. Auditors will face a challenge to do this if the organization decides not to maintain documented information related to relevant parties relevant requirements.

4.3 Determining the scope of the EMS

► INTERPRETATION:

The 2004 edition of the standard just required the organization to define and document the scope of its EMS. The new 2015 edition goes much further.

The scope of an EMS sets its boundaries, its processes, its products and services and its functions, must be defined by the organization.

When defining the scope of its EMS, the organization needs to consider the internal and external issues it faces and the relevant requirements of relevant interested parties. It must also consider its activities, products and services, its organizational functions and physical boundaries and its authority and ability to exercise control and influence.

The term “consider” means that it is necessary to think about but it can be excluded.

► IMPLICATIONS FOR ENVIRONMENT PROFESSIONALS:

An organizations has the freedom to define its own EMS boundaries. It may choose to develop an EMS for the entire organization or for some specific part of the organization, if, and only if, the top management of that part has the authority and resource to implement an EMS.

The credibility of an EMS depends, amongst other factors, on the choice of organizational boundaries.

► IMPLICATIONS FOR AUDIT PROFESSIONALS:

Auditors will need to verify that the organization’s scope is maintained as documented information. They must gather evidence that it has been produced in consideration of the organization’s context and its activities, products and services.

Auditors will also have to evaluate the credibility of the scope as designed by the organization and determine if, as defined, the scope may mislead interested parties on what is in and what is out of the EMS.

4.4 Environmental management system

► INTERPRETATION:

Clause 4.4 sets out high-level requirements for the environmental management system. The organization has to establish a management system that complies with all requirements of ISO 14001:2015. Once in place the EMS needs to be implemented, maintained and continually improved.

When establishing the EMS, the organization has to consider the knowledge it has acquired when analysing its external and internal issues (4.1) and the requirements of the interested parties (4.2); it also has to determine the processes needed, and their interaction, in order to achieve the EMS’s expected outcomes.

► **IMPLICATIONS FOR ENVIRONMENT PROFESSIONALS:**

ISO 14001 now requires determination of the processes that are needed for the EMS and how they interact with each other. However, it is necessary to stress that even if the general idea is similar to the process approach of ISO 9001:2015, it is not the intention of ISO 14001:2015 to apply that approach in full.

The organization has the authority to decide how it will meet the requirements in 4.4. It may choose to establish and maintain new processes in order to achieve the expected results of the EMS or it could integrate EMS requirements into the existing business processes of the organization.

► **IMPLICATIONS FOR AUDIT PROFESSIONALS:**

This is a clause that contains high-level requirements that span across all other clauses of the standard. Auditors will need to take this into account when auditing all other requirements and, most probably at the end of an audit, will then need to make a high-level evaluation as to the organizations degree of compliance with the requirements in 4.4.



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5 LEADERSHIP

5.1 Leadership and commitment

► INTERPRETATION:

ISO 14001:2004 included scattered references to top management responsibilities (Policy, Resources, Management Review). Now, ISO 14001:2015 has this key new clause, Leadership, where top management are expected to demonstrate both leadership of and commitment to their EMS.

This starts with them accepting accountability for the effectiveness of the EMS. They must ensure that the environmental policy and objectives are consistent with the organization's overall strategic direction and the context in which the organization is operating.

They must work alongside their people in order to ensure that the EMS objectives are achieved. In addition, top management must ensure that the EMS policy is communicated, understood and applied across the organization.

Top management must also ensure that the EMS requirements are integral to the organization's business processes and that resources are available for the effective operation of the EMS.

Top management must stress the importance of effective environmental management and of conforming to the requirements of the EMS, must ensure that the EMS is achieving the intended outcomes and must lead people to contribute to the effective operation of the system. They must also develop leadership in other management roles.

► IMPLICATIONS FOR ENVIRONMENT PROFESSIONALS:

The move to "Leadership and commitment" is perhaps the most significant and far-reaching change contained within ISO 14001:2015, although the actual impact will depend very much on where each organization is starting from.

For those where the most senior members of the organization currently play an active role in driving its EMS forward, the changes will simply be a formalization of what is happening now. However, for those organizations where top management have effectively devolved responsibility for their EMS to their Management Representative, the ramifications of the ISO 14001:2015 Leadership changes will be significantly greater.

ISO 14001:2015 requires top management to be much more "hands on" with respect to their EMS than ISO 14001:2004 does. Where the word "ensuring" is used within the standard, top management may still assign this task to others for completion. Where the words "promoting", "taking", "engaging" or "supporting" appear, these activities cannot be delegated and must be undertaken by top management themselves. Implementers will need to make top management aware of the new requirements, and the fact that they will now be audited as a matter of routine and on a wider set of issues.

When ISO 14001:2015 uses the term "top management", it is referring to a person or a group of people who directs and control an organization 'at the highest level'.

► IMPLICATIONS FOR AUDIT PROFESSIONALS:

Auditors must understand which ISO 14001:2015 requirements top management can delegate and which they cannot.

Auditors must ensure that they are equipped to challenge top management in respect of their commitment to their EMS. To be effective and gain the respect of top management, auditors will need to have a good understanding of management activities and of the organization they are auditing, be able to engage with top management on a range of subjects, and speak the language of top management. For many auditors, this will involve developing new and enhanced competencies.

5.2 Environmental policy

► INTERPRETATION:

ISO 14001:2015 introduces minor changes to the equivalent clause in the 2004 edition. Clause 5.2 sets out the requirements of top management in respect of the organization's environmental policy.

Top management must establish an environmental policy that is consistent with the purpose and the context of the organization. It must additionally provide a framework for the setting and reviewing of environmental objectives.

Three specific commitments have to be included in the policy: to protect the environment, to satisfy compliance obligations and to continually improve the EMS and improvement of the organization's environmental performance.

The term "protection" includes the well known "prevention of pollution", but goes beyond, including the protection of the environment from harm and degradation.

It is the responsibility of top management to review and maintain the environmental policy, to communicate it within the organization, to ensure that it has been understood and to make it available to interested parties.

► IMPLICATIONS FOR ENVIRONMENT PROFESSIONALS:

Since this is a requirement incumbent on top management; environmental professionals should not get directly involved in its implementation. They should not be tempted by top management to do the job for them (ie; to draft a policy to be reviewed by top management and who may then sign it without due consideration of its contents).

► IMPLICATIONS FOR AUDIT PROFESSIONALS:

Auditors should address this requirement with the top management and should not be diverted to a management representative.

The requirement to determine that the environmental policy is appropriate to the purpose and context of the organization reinforces the need for auditors to establish their personal understanding of the context that the audited organization is operating in.

However, from an auditor perspective it is important that top management can demonstrate that the policy is compatible with the strategic direction and context of the organization and that it has been communicated and understood, as required by sub-clause 5.1.1b.

5.3 Organizational roles, responsibilities and authorities

► INTERPRETATION:

This is largely a rewording of the requirements given in ISO 14001:2004. The top management of the organization need to ensure assignment of the necessary responsibilities and authorities to individuals within the organization to carry out EMS related activities.

- specifically, they need to assign responsibility and authority for:
- ensuring that the requirements set out in ISO 14001:2015 are met;
- reporting on the operation of the EMS and
- for identifying any opportunities for improvement;

Top management need to ensure that responsibilities and authorities relating to an organization's EMS system are communicated and understood within the organization.



Top management must establish an environmental policy that is consistent with the purpose and the context of the organization

► IMPLICATIONS FOR ENVIRONMENT PROFESSIONALS:

The role of Management Representative has disappeared in ISO 14001:2015. This is an attempt to ensure that ownership of the environmental management system does not centre on a single individual. Duties assigned to the Management Representative in ISO 14001:2004, can now be assigned to any role or split across several roles.

The environmental professionals within the organization may have to revisit the existing responsibilities and authorities with regards to the QMS, especially the responsibilities of top management. The review may identify gaps, including gaps of knowledge and skills, which will then need to be addressed before a compliant system can be established.

► IMPLICATIONS FOR AUDIT PROFESSIONALS:

Auditors must seek evidence that an organization's people have not only been advised of their EMS responsibilities and authorities, but that they also understand these in the context of what the EMS is trying to achieve.

Auditors should note that there is no longer a requirement for an organization to have an identified Management Representative, though the duties currently assigned to the Management Representative in ISO 14001:2004 must still be undertaken.



6 PLANNING

6.1 Actions to address risks and opportunities

► INTERPRETATION:

Risks and opportunities (6.1.1)

This clause contains a new requirement.

Organizations are required to consider their context (4.1), the relevant requirements of their relevant interested parties (4.2) and their defined scope when planning for their EMS. This means thinking about the internal and external issues they face and the relevant requirements of their relevant interested parties, and how this may impact on the design of their EMS.

Once this task has been completed the organization must then move to establish, implement and maintain a mechanism to determine any risks and opportunities that relate to the internal and external issues and relevant requirements of relevant interested parties it has identified. This is done in order to provide assurance that the EMS can achieve its intended outcomes, to prevent or reduce undesired effects, and to achieve continual improvement.

So what are the risks and opportunities from an ISO 14001:2015 perspective? They are “potential adverse effects (threats) and potential beneficial effects (opportunities)”. For every external and internal issue and for every relevant need and expectation of relevant interested parties, a risk source may be identified.

This risk source associated with a potential event (defined as an occurrence or change of a particular set of circumstances) may constitute a threat or an opportunity for the organization. When such an event occurs, the effect will be positive in the case of an opportunity or negative in the case of a threat.

The determination of risks and opportunities should be carried out at a strategic, tactical and operational level.

Environmental aspects (6.1.2)

This is almost the same requirement as in the 2004 edition. The organization has to determine the environmental aspects of its activities, products and services that it can control and those that it can influence, and the related environmental impacts, considering a life cycle perspective. In doing so, the organization has to take into account planned changes (eg to its infrastructure, activities, products or services).

Next, the organization has to determine which of these aspects have or can have a significant environmental impact, using established criteria. It is important to note that significant environmental aspects can result in risks and opportunities with associated adverse or beneficial impacts.

Compliance obligations (6.1.3)

This is, again, almost the same as in the 2004 edition. The organization has to determine the compliance obligations related to its environmental aspects and take them into account when establishing, implementing, maintaining and improving the EMS.

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

Planning action (6.1.4)

The organization has to plan to take action to address its significant environmental aspects, its compliance obligations and any other risks and opportunities identified previously.



The determination of risks and opportunities should be carried out at a strategic, tactical and operational level

There is no requirement for formal organization-wide risk management or for a documented risk management process

The standard requires a planned approach with respect to these actions, with the actions being integrated into the EMS or other business processes. Subsequently the action must be evaluated to determine whether the action was effective in reducing the threat or realising the opportunity.

► **IMPLICATIONS FOR ENVIRONMENT PROFESSIONALS:**

This sub-clause introduces a new requirement for organizations to determine those risks and opportunities that have the potential to impact the operation and performance of their environmental management system, both positively and negatively.

The risks and opportunities related to the environmental aspects and to the compliance obligations are specifically treated in two sub-subclauses (6.1.2 and 6.1.3). But the organization can also have risks and opportunities related to other issues, such as environmental conditions that can affect or be affected by the organization or compliance obligations not related to environmental aspects. For example:

- incorrect classification of waste due to a lack of training of personnel recently incorporated to the company
- lack of available resources to maintain an effective EMS due to a strong devaluation of the local currency
- introducing new technology to treat water discharges financed by the headquarters of the group
- increased contamination of the water taken from the river due to a new plant built upstream that started operation recently.

In order to manage these three different groups of risks and opportunities (environmental aspects, compliance obligations and others) organizations may implement a single methodology to deal with all of them or, alternatively, have one methodology for each of them.

There is no requirement for formal organization-wide risk management or for a documented risk management process.

Actions taken to address risks and opportunities should be in proportion to the potential impact of the risk and opportunity on the environment or to the organization, however, not all risks and opportunities need actions. For example, the organization may take an informed decision to accept the risk, in effect taking no action beyond identifying and evaluating it.

The actions planned may include establishing objectives (see 6.2) or may include incorporating the action into an EMS process.

Subsequently, the organization needs to evaluate the effectiveness of those actions.

► **IMPLICATIONS FOR AUDIT PROFESSIONALS:**

Many new issues for auditors, who should seek evidence that confirms that an organization has a methodology in place that enables them to effectively identify risks and opportunities in respect of the planning of their EMS.

The role of the auditor is not to carry out their own determination of risks and opportunities, but to ensure that the organization is applying their methodology consistently and effectively. However, where the auditor's knowledge of the context of the organization reveals that the organization has failed to identify a familiar known risk or opportunity, they may call into question the organization's approach.

Auditors should ensure that the organization is taking a planned approach to addressing threats and realising opportunities, and that any actions taken have been retained as documented information. For those actions that have been completed, auditors should ensure that each action's effectiveness (or otherwise) has subsequently been assessed. They should also ensure that the action taken was proportionate to the risk or opportunity.

Auditors must ensure they have a good understanding of the concepts of risk and opportunity and of the range of methodologies that organizations may use to manage these areas.

6.2 Environmental objectives and planning to achieve them

► INTERPRETATION:

The definition of objective is “result to be achieved” and can apply at different levels - strategic, organization-wide, project, product, service and process.

A Note to the definition says that an objective can be expressed in different ways, eg as an intended outcome, a purpose, an operational criterion, as an environmental objective, or by the use of other words with similar meaning (eg aim, goal, or target).

The term “environmental objective” narrows down the broader meaning of “objective” to “an objective set by the organization consistent with its environmental policy”.

This clause applies only to “environmental objectives” and requires organizations to set them for relevant functions, levels and processes within its EMS. It is for the organization itself to decide which functions, levels and processes are relevant.

When defining its environmental objectives, the organization must take into account its significant environmental aspects, its compliance obligations and its risks and opportunities

Environmental objectives must be measurable, communicated and updated as appropriate. They must also be monitored in order to determine whether they are being met.

The organization must undertake planning in order to determine how its environmental objectives will be achieved. This planning includes determining the work required in order for the organization to realise its environmental objectives, the resources necessary to undertake this work, who will be responsible for ensuring that the work is done and when the work needs to be completed by.

Additionally, the organization must determine how it will evaluate the work done including the use of indicators and, whenever possible, integrate these planned actions into the organization’s business processes.

► IMPLICATIONS FOR ENVIRONMENT PROFESSIONALS:

It is important to clarify that the term “objective” is not necessarily applicable to improvement processes. An organization can consider a decision to keep a process under control as an objective (ie not improving the performance of a process, but preventing a decrease in its performance). In other words, an objective may be defined to improve or to maintain a certain level of performance.

Organizations may need to define objectives at different levels. When doing so they need to ensure the alignment of their objectives with the organization’s strategic direction.

Good news: the concept of “target” used in previous editions is captured within the term “environmental objective”. This will help to prevent endless discussions on the difference between both terms.

With reference to significant environmental aspects, a significant aspect may be related to more than one objective and, conversely, several significant aspects may be related to only one objective. A key addition in the 2015 revision is the use of indicators to monitor the achievement of objectives. Indicators are defined as a measurable representation of the status of operations, management or conditions. Each objective will need one or more associated indicators.

The sub-clause focuses not just on what needs to be done, but also asks organizations to identify what resources will be required to do it, who will do it, when it will be completed and how it will be evaluated in order to determine if it has realised the objective.

In summary, ISO 14001:2015 is asking for a more robust management of objectives.



ISO 14001 is
asking for a
more robust
management
of objectives

► IMPLICATIONS FOR AUDIT PROFESSIONALS:

Auditors will have to add to their current knowledge and skills as a consequence of these more robust requirements.

They will have to know how to audit a set of interrelated objectives, ensuring that they are mutual consistent and that they are aligned with the strategic direction of the organization.

Auditors should look for evidence that effective planning is taking place to support the achievement of the organization's environmental objectives. The use of indicators needs to be audited in detail; are objectives based on sound information? Are indicators really related to the corresponding objectives? Are statistical tools needed to define and to monitor objectives? If the indicators reach the expected values, how can the organization assure that the objective has been achieved?

7 SUPPORT

7.1 Resources

► INTERPRETATION:

The organization must initially determine and then subsequently provide the resources necessary to establish, implement, maintain and continually improve its EMS. This is essentially the same requirement as in the 2004 edition.

What is meant by "resources"? The standard leaves this question open but examples could include raw materials, infrastructure, finance, personnel and ICT, all of which can be either internally or externally provided. The organization has to identify which resources it needs to make available in order to ensure the effective operation of the EMS.

► IMPLICATIONS FOR ENVIRONMENT PROFESSIONALS:

During the development of an EMS, particular care should be taken to identify the different types of resources needed. This could be simply providing equipment for a laboratory or a drainage system, but it could also include the acquisition and maintenance of knowledge essential to keep the EMS moving in the right direction. Not all resources are tangible.

► IMPLICATIONS FOR AUDIT PROFESSIONALS:

Auditors should not merely look at the budget to check that some funding has been allocated to the EMS. They must dig deeper, checking if the organization has really identified all types of resources required and that it has taken action to ensure that those resources will be available when needed.

7.2 Competence

► INTERPRETATION:

Clause 7.2 is essentially a rewording of the text in the 2004 edition.

The organization must determine the competency requirements for those people performing work under its control. Once these competency requirements have been determined, the organization must then ensure that those people possess the necessary competencies, either on the basis of their education, training or experience.

If those people are found not to be competent, the organization is required to take action (eg remedial training, recruitment or the use of external people) in order to acquire the necessary competence. The actions taken need to be evaluated for effectiveness in raising competence to the required level.

The phrase "People performing work under its control" embraces not only the organization's own personnel, but also contract and agency people, as well as people performing processes and functions that have been outsourced to external providers working either on site or off site. It replaces the phrase "persons working for the organization or on its behalf" used in the 2004 edition, however both have the same intent.

► **IMPLICATIONS FOR ENVIRONMENT PROFESSIONALS:**

Competence is defined as the “ability to apply knowledge and skills to achieve intended results”. Competence now needs to be considered in terms of “its potential impact on the organization’s environmental performance,” as opposed to a narrower concept: “its ability to cause significant environmental impacts” used in the previous edition.

Additionally, organizations are still required to retain evidence to demonstrate that people doing work under its control are competent. This evidence needs to be retained as documented information.

► **IMPLICATIONS FOR AUDIT PROFESSIONALS:**

No substantive change for auditors.

Some organizations chose to simply record staff training. These records may not be sufficient to demonstrate competence as defined in the standard. If they are not sufficient, auditors will need to find additional objective evidence in order to determine that the competency requirements have been met.

7.3 Awareness

► **INTERPRETATION:**

Awareness has now been elevated from a constituent element of a sub-clause to a separate sub-clause in its own right. The spirit remains the same, but some minor upgrading has been introduced.

There are explicit requirements for people performing work under the organization’s control to be aware of the organization’s environmental policy, any environmental objectives that are relevant to them, how they are contributing to the effectiveness of the EMS and what the implications are of them not conforming to EMS requirements and not fulfilling the organization’s compliance obligations.

► **IMPLICATIONS FOR ENVIRONMENT PROFESSIONALS:**

The important factor here is the addition of the requirement to make persons performing work under the organization’s control aware of the implications of not conforming to the EMS.

► **IMPLICATIONS FOR AUDIT PROFESSIONALS:**

ISO 14001:2015 has enhanced requirements for awareness both in terms of who needs to be made aware and also in terms of what they need to be made aware of. The latter is now detailed explicitly within this clause. Audit professionals must ensure that the organization is able to provide evidence that these enhanced requirements are being met.

7.4 Communication

► **INTERPRETATION:**

Clause 7.4 “Communication” encompasses all internal and external communication relating to an EMS. Organizations need to develop and implement a process to determine those EMS-related matters on which it wishes to communicate. Once this has been done, consideration must then be given as to the timing of such communications, their target audience and their method of delivery.

When developing this process, organizations need to take into account its compliance obligations and need to ensure the quality of the information to be communicated. Two key features of the quality of the information are: reliability and consistency with the information generated by the EMS.

The process has to ensure that all communications received are responded to.

Internally, organizations have to communicate information relevant to the EMS amongst all levels and functions, including information on any change, as appropriate, and have to establish a mechanism to enable all persons performing work under the organization’s control to contribute to continual improvement.

Externally, organizations have to communicate as required by their compliance obligations. Additionally, organizations may choose to communicate on other issues, as appropriate.



The extent of documented information can differ between organizations due to their size, complexity and the competency of their people

► **IMPLICATIONS FOR ENVIRONMENT PROFESSIONALS:**

This clause requires the organization to determine on what it will communicate, when it will communicate, with whom it will communicate and how it will communicate.

Environment professionals should be prepared to evidence these four elements (what, when, with whom and how), which collectively appear as the basis for a procedure.

Communications must be transparent, appropriate, truthful and not misleading, complete, factual, accurate, able to be trusted and understandable to interested parties.

► **IMPLICATIONS FOR AUDIT PROFESSIONALS:**

Auditors should ensure the organization has identified external communications as well as internal communications that need to take place in respect of the operation of its EMS.

They should also ensure that the organization has determined what it needs to communicate, when it will communicate, with whom it will communicate and how it will communicate.

Auditors should be aware that the quality of the information is to be seen as a key factor of an effective communication process.

7.5 Documented information

► **INTERPRETATION:**

There is no list of documents to be included in the EMS. Now, this clause simply says that the EMS shall include the documented information required in ISO 14001:2015 and documented information identified by the organization as necessary for the effective operation of its EMS.

The extent of documented information can differ between organizations due to their size, complexity and the competency of their people.

When documented information is created or updated, the organization must ensure that it is appropriately identified and described (eg title, date, author, reference number). It must be in an appropriate format (eg language, software version, graphics) and on appropriate media (eg paper, electronic).

Documented information must be reviewed and approved for suitability and adequacy.

The organization is required to control documented information in order to ensure that it is available where needed and that it is suitable for use. It must also be adequately protected against improper use, loss of integrity and loss of confidentiality

The organization must determine how it will distribute, access, retrieve and use documented information.

It must decide how it will store and preserve documented information, and how it will control any changes to the documented information. It must also decide its retention and disposal arrangements.

The organization is also required to identify any documented information of external origin that it considers necessary for the planning and operation of the EMS. Such documentation must be identified and controlled.

► **IMPLICATIONS FOR ENVIRONMENT PROFESSIONALS:**

No change – these requirements are already contained in ISO 14001:2004. The term “documented information” includes as a subset, all “documents”, including all “records.” The 2004 terms “documents” and “records” are not used in the 2015 edition.

The standard requires the organization to:

- maintain documented information on: scope, environmental policy, risks and opportunities, processes in 6.1 to the extent necessary, environmental aspects, compliance obligations, environmental objectives, operational processes to the extent necessary, emergencies processes, compliance evaluation process,
- retain documented information as evidence of: competence, communications, monitoring, measurement, analysis and evaluation of results, compliance evaluation results, audit results, management reviews, non conformities and corrective actions.

In addition to the documented information required by ISO 14001:2015, organizations may choose to have additional documented information for different purposes: accountability, consistency, training or transparency.

Documented information must be controlled. While ISO 14001:2004 contains requirements for controls in respect of the availability of documents, the new edition extends these also to cover the “access” and “usage” of documented information required by the organization’s EMS and by ISO 14001:2015. Access can imply “permission to view only;” or “permission to view and authority to change.”

Where organizations chose to hold their documented information in electronic forms, there may be a need to revisit access controls (passwords/logins) and authorisation levels in order to ensure current controls are appropriate. Organizations will need to consider how such systems are to be protected when passwords are lost and how access to the documented information can be preserved in the event of system unavailability. They will also be required to demonstrate how the integrity of their documented information is maintained.

With most organizations moving to electronic documents that are maintained and accessed remotely using passwords, etc; this may mean more controls need to be demonstrated if claiming compliance.

► IMPLICATIONS FOR AUDIT PROFESSIONALS:

The new edition does not require the maintenance or retention of much documented information. Auditors will have to learn how to audit non (or scarcely) documented EMS, where the evidence will no longer be conveniently located on a piece of paper or in a computer. They will need to learn how to obtain evidence just talking to people or watching activities being carried out.

Auditors should note that, while the requirement for a documented procedure specifying how documents are to be controlled has been removed, the requirements above are mostly unchanged from ISO 14001:2004.

Auditors will increasingly find themselves having to access and use electronic systems in order to evidence how organizations are controlling their documented information. This could require a technical upskilling.

8 OPERATION

8.1 Operational planning and control

► INTERPRETATION:

Clause 8.1 requires organizations to plan, implement and control those processes that it has previously identified (see clause 4.4) as necessary in order for it to meet the EMS requirements, and to implement the actions identified in 6.1 and 6.2. To do so, organizations have to establish operating criteria for those processes and implement control of the processes in accordance with these operating criteria.

So far, no major changes to the 2004 edition. However, ISO 14001:2015 introduces three new issues that

The organization must control planned changes to its EMS and review the consequences of any unintended changes

open up the scope of this whole clause; changes, outsourced processes and a life cycle perspective.

The organization must control planned changes to its EMS and review the consequences of any unintended changes. Where necessary, the organization should take action to address or mitigate any adverse effects.

In relation to outsourced processes, the organization has to ensure that they are controlled or influenced. The definition of outsource, as a verb, is "to make an arrangement where an external provider performs part of an organization's function or process".

In accordance with the definition, any type of control or influence to be applied to an outsourced process needs to be defined within the EMS. In other words, an external provider is outside the scope of the EMS, although the outsourced function or process is within the scope.

What is life cycle? It is a set of consecutive and interlinked stages of a product (or service) system, from raw material acquisition or generation from natural resources to final disposal.

In relation to a life cycle perspective, organizations are required to:

- design and develop products and services taking into account the environmental impact throughout their life cycle
- include environmental requirements in the purchasing specifications of products and services
- communicate these environmental requirements to external providers
- when necessary, provide information on potential environmental impacts related to the transportation, use, end of life treatment and final disposal of its products and services.

► IMPLICATIONS FOR ENVIRONMENT PROFESSIONALS:

Processes

The 2004 edition required organizations to identify and plan "operations". The 2015 edition requires organizations to establish, implement, control and maintain "processes". Even if operations and processes could be seen as synonymous, the requirements have clearly been extended.

When establishing these processes, actions identified in 6.1 have to be implemented. These actions depend of the level of risk assigned to each process. It is highly recommended that a hierarchy approach is followed. The best option would be to eliminate the source of risk, then substitution by actions with lower levels of risk, engineering solutions and finally administrative actions, like establishing procedures to carry out those actions.

There are different options when determining the way in which a process will be controlled. These include monitoring or measuring the results of the process, establishing a procedure (documented or not) to carry out the process, ensuring the competence of the personnel involved, using technology to prevent adverse results and designing the process to ensure consistent results. It should be noted that establishing a procedure is just one of several mechanisms available to keep a process under control; it is up to the organization to decide which mechanism it will use in each process.

Products and services provided to customers

The organization has to incorporate its environmental requirements during the design and development of products and services provided to customers. When doing this, the organization has to consider each stage of the product and services life cycle. The life cycle stages include acquisition of raw materials, design, production, transportation/ delivery, use, end-of-life treatment and final disposal.

Considering that some of the organization's environmental impacts can occur once the products and services have been delivered to the customers, organizations need to provide information to those that will transport, use, treat or dispose of the products and services in order to prevent adverse environmental impacts.

External providers/Outsourcing

The organization has to define environmental requirements for the products and services it needs to purchase and communicate them to its external providers. It is not the intention of the standard to expect organizations to exert full control or share the control on the processes operated by its external suppliers, since these processes are not part of the EMS. However, some influence could be exerted on the external supplier to ensure that the environmental requirements established in the purchasing specification will be fulfilled.

A new consideration in the 2015 edition is outsourced processes, which form a particular type of provision. According to the definition, they are part of the EMS and therefore, the way in which they are controlled should be included in the EMS. However, the organization's ability to exert control or influence can vary from full control to no influence. The outsourced process could be carried out by a contractor within the organization's site, where the organization can exert full control or could be carried out in the external provider's site, where the organization's ability to exert control or influence might be limited.

An outsource process differs from a purchased product or service in that:

- it is part of the EMS of the organization and integral to its functioning
- it is needed for the EMS to achieve its intended outcomes
- environmental liability is retained by the organization
- it is perceived by interested parties as being carried out by the organization.

► IMPLICATIONS FOR AUDIT PROFESSIONALS:

Audit professionals should analyse this clause very carefully, since it introduces several new elements.

With reference to processes, the verbs establish, implement, control and maintain, open the scope of this clause, with the addition of the relationship with the risks and opportunities determined in 6.1 and the different options available to keep processes under control.

With reference to the life cycle perspective, there are many opportunities for auditors to follow the actions of the organization through all life cycle stages; nevertheless, auditor should not expect a fully developed life cycle analysis. This is not a requirement of the new standard.

Finally, with reference to external providers and outsourced processes, auditors should carefully analyse the arrangements made by the organization; in particular, auditors should be alert and identify instances of outsourcing highly pollutant processes with the intention of dropping them out of EMS. Even if the specific degree of influence is not prescribed by the new standard, it is expected that organizations will exert as much influence as possible and practicable.

8.2 Emergency preparedness and response

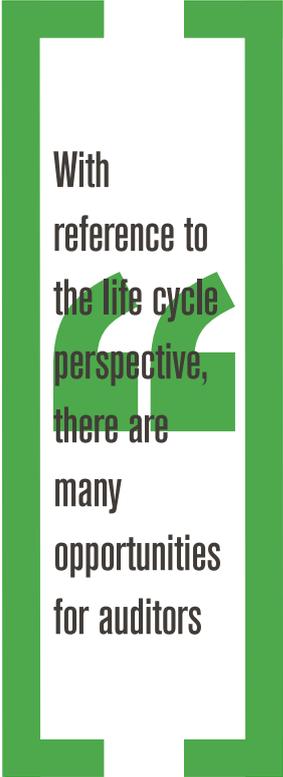
► INTERPRETATION:

The standard requires the organization to establish, implement and maintain processes to prepare for emergency situations and to respond if they occur.

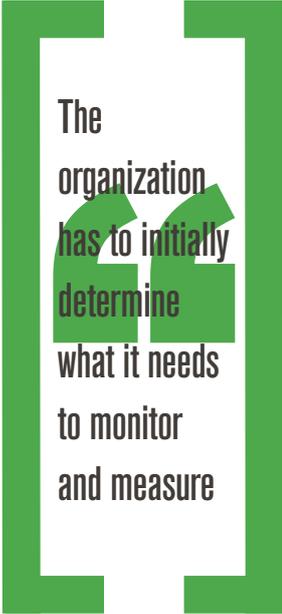
This is one of the few instances where specific processes are mandated.

The emergency situations to be covered are those identified in 6.1.1. These may originate within the organization and have the potential to affect the environment, or may be an environmental condition that has the potential to affect the organization.

The organization has to ensure that these processes are ready to be triggered and that it has the capability to respond effectively to emergency situations.



With reference to the life cycle perspective, there are many opportunities for auditors



The organization has to initially determine what it needs to monitor and measure

In order to do so, the planned response actions need to be tested, reviewed and revised if necessary, in particular after the occurrence of emergency situations and after tests.

Interested parties need to be made aware of these arrangements, (and when necessary trained if they are required to participate in the emergency response) or if they may be affected by the emergency situation.

► **IMPLICATIONS FOR ENVIRONMENT PROFESSIONALS:**

The requirement is essentially the same as in the 2004 edition however, it should be noted that the identification of potential emergency situations has been moved to 6.1.1 as part of the identification of risks.

The emergency preparedness and response processes may include the training of emergency brigades, a list of key personnel and aid organizations including contact details, evacuation routes and assembly points and the possibility of assistance from neighbouring organizations.

► **IMPLICATIONS FOR AUDIT PROFESSIONALS:**

No change in audit approach required.

9 PERFORMANCE EVALUATION

9.1 Monitoring, measurement, analysis and evaluation

► **INTERPRETATION:**

This sub-clause expands considerably on the equivalent sub-clause in the 9004 edition.

The organization has to initially determine what it needs to monitor and measure (eg its progress on environmental objectives, characteristics of operational activities, products and services related to significant environmental aspects or to compliance obligations). This includes the determination of the criteria against which the environmental performance will be evaluated including appropriate indicators.

Once this has been done, the organization has to determine how it is going to carry out these monitoring and measurement activities in order to ensure that the results obtained are valid.

The requirement for methods to ensure valid results also extends to the analysis and evaluation of the results obtained from the monitoring and measurement activities. These methods may include, as appropriate, statistical techniques to be applied to the analysis of those results.

In addition, the organization must also determine when monitoring and measurement should be carried out and at what stage the results of monitoring and measurement should be analysed and evaluated.

Finally, there is a requirement for organizations to evaluate their environmental performance and the effectiveness of their EMS.

Monitoring and measurement equipment must be calibrated or verified, as appropriate.

This clause also requires the organization to develop a process to evaluate the degree of fulfilment of its compliance obligations. This is the same as in the 2004 edition, but adds the requirement for organizations to understand and be aware of their compliance status.

► **IMPLICATIONS FOR ENVIRONMENT PROFESSIONALS:**

There are several elements of this clause that need careful review.

Organizations should ensure that the time spent planning monitoring and measurement is consistent with the variability of the organization's processes and is coordinated with the need for analysis and evaluation.

The results of monitoring and measurement have to be reliable, reproducible and traceable, in order to generate a consistent set of data that can be analysed, using solid statistical techniques when appropriate, in order to permit the evaluation of conformance with pre-established requirements.

There is no obligation to use sophisticated statistical techniques, just to apply a “statistical analysis for decision making”.

With reference to the evaluation of compliance, organizations have to set up a process that will involve the determination of the frequency of the evaluation, the execution of the evaluation and the actions that need to be taken.

If during a compliance evaluation, a failure to fulfil a compliance obligation is identified, the organization needs to take action to achieve compliance. This may require getting in contact with a regulatory agency to agree the action to be taken. Once that agreement is in place, it becomes a compliance obligation.



of raw data obtained from monitoring and measurement. It is not sufficient to just monitoring and measuring without carrying out an analysis and evaluation of the results.

Auditors should have a basic knowledge of the concept of variability of process and of basic statistical techniques in order to evaluate the effectiveness of the processes related to this clause. If last month an organization generated 20 tonnes of waste and this month it generates 18 tonnes of waste, does this mean the process has improved generating 10% less of waste or is this simply natural process variation in action?

It should be noted that an audit of the process of compliance evaluation (as part of an internal audit of an EMS) is not in itself a compliance audit.

The audit of the process of compliance obligation should include the planning of the evaluation, the competency of auditors, the documented information retained, the actions taken form the observed findings, and, if considered necessary by the EMS auditor, verifying the results of the compliance audit for a sample of compliance obligations.



9.2 Internal audit

► INTERPRETATION:

ISO 14001:2014 confirms the requirement for the organization to carry out internal audits at planned intervals in order to provide information as to whether the EMS conforms to both the organization's own requirements and the requirements of ISO 14001:2015.

Internal audits must also identify whether the EMS is being effectively implemented and maintained.

This clause also sets out a series of requirements relating to how audit programmes must be structured, what audits must cover, who should undertake audits and how audits are to be reported.

When designing an audit programme, organizations need to consider, the importance of the processes concerned, changes within the organization, risks and opportunities, and the results of previous audits.

Each audit needs to have a defined scope and its own audit criteria. Audits and auditors need to be impartial and objective.

Finally, the findings from audits need to be fed back to the relevant management and any required corrections or corrective actions being taken in a timely manner.

Documented information needs to be retained to provide evidence that the audit programme has been implemented. Documented information must also exist to provide evidence of the results of audits.

► IMPLICATIONS FOR ENVIRONMENT PROFESSIONALS:

Environmental professionals should note that whilst the detailed requirements for internal audit are essentially unchanged from ISO 14001:2004 there are two important revisions.

In the 2004 version the purpose of internal audit is to 'determine' whether the EMS is conforming to requirements and is effectively implemented and maintained, ie to actually make the judgement. In the 2015 version the purpose of internal audit is to simply 'provide information' as to whether this is the case. The determination is now done elsewhere (management review).

Secondly the results of internal audit now need to be fed back to 'relevant management' not 'management'. Relevant management are those individuals best placed to act on the audit findings.

There is no longer a requirement for organizations to establish a documented internal audit procedure. However, organizations may still choose to operate one if they so wish.

Environmental professionals should note the need to retain documented information evidencing the implementation of an audit programme and also the results of audits.

► IMPLICATIONS FOR AUDIT PROFESSIONALS:

Auditors should not necessarily expect to find a documented internal audit procedure in place. However, they must be able to access documented information confirming the implementation of an audit programme by the organization. Documented information must also be available to evidence the results of audits.

Note the amended requirement to now feedback the results of audit to relevant management.

Note the revised purpose of internal audit – to provide information as to whether the EMS complies with requirements and is effectively implemented as opposed to determining whether this is the case.



9.3 Management review

► INTERPRETATION:

This clause requires reviews of the EMS to be undertaken by top management at planned intervals in order to ensure the EMS's continuing suitability, adequacy and effectiveness. This is essentially unchanged from the existing ISO 14001:2004.

The items that top management must (as a minimum) consider during a management review are mainly the same as in the previous edition; actions from previous reviews, the achievement of objectives, non conformities and corrective actions, the environmental performance of the organization, results from internal and external audits, evaluation of fulfilment of its compliance obligations, communications from interested parties, recommendations for improvement.

There are however some new ones. Changes in the context of the organization (it could be argued that "changing circumstances" in the previous edition was exactly this), in the requirements of interested parties, in the significant environmental impacts, in the risks and opportunities, and adequacy of resources all now need to be considered.

This clause also sets out specific requirements in respect of the outputs from management review. Is the EMS effective, suitable and adequate? Is there any improvement opportunity to be implemented? Is there the need to change elements of the EMS? Is there a need for additional resources? Is there any need of action to address objectives that have not been met? Is there a way to improve the integration of the EMS with other business processes? Is there any implication for the strategic direction of the organization?

► IMPLICATIONS FOR ENVIRONMENT PROFESSIONALS:

It is interesting to notice that this requirement is no longer located in the "act/improvement" part of the EMS. Now it appears in the "check/evaluation" part, since it is just an evaluation of the EMS under the direct responsibility of the top management. Was it previously misplaced in the "act" section? It could be argued that it was.

The implication for organizations is a more comprehensive management review process. It should be noted that a lot of the information listed will already be available in some organizations, but may not have been considered under 'environmental management' in the past.

Some organizations have for many years asked the Management Representative to prepare all of the information needed for this review along with a draft of the conclusions. In such instances top management just afforded the information a quick look and approved the draft report.

Now, is it clear that the information has to be provided by all relevant managers and the analysis made and the decision taken by top management. This is another example of the more extensive involvement by top management expected by the new edition of the standard.

► IMPLICATIONS FOR AUDIT PROFESSIONALS:

Auditors should expect to evidence a more strategically focused management review. Context, risks and opportunities need to be considered, as well as the alignment of the EMS to the organization's overall strategic objectives.

These days, it is not unusual to see auditors audit this requirement during an interview with the Management Representative, who typically has all necessary records to shown them.

These new requirements in 9.3 expect auditors to audit this clause with Top Management. In order to do so effectively they must be competent to discuss, face to face with one or more senior managers, strategic issues that go beyond operational issues. Consequently auditors need to upgrade their skills, as previously identified in clause 5.1. They also need to gather as much information as possible on the context of the organization and its interested parties as part of the audit preparation.

10 IMPROVEMENT

10.1 General

► INTERPRETATION:

Clause 10.1 is a new clause. It requires organizations to actively seek out and realise improvement opportunities that will better enable the organization to achieve the intended outcomes of the EMS.

Potential sources of improvement opportunities include the results of analysis and evaluation of environmental performance, evaluation of compliance, internal audits and management reviews (ie Clause 9).

Improvement may not always take place on a continual basis. Sometimes it occurs as a result of corrective action, sometimes through breakthrough/ innovation and sometimes as a result of re-organization.

Preventive action no longer exists as an explicit requirement, however, the concept still underpins ISO 14001:2015 and is embodied in risk-based thinking.

► IMPLICATIONS FOR ENVIRONMENT PROFESSIONALS:

Environmental professionals should note the new requirements. Organizations should ensure that they have mechanisms in place to review the results of all evaluations carried out within the EMS, to identify opportunities for improvement and to then take action to implement them.

Opportunities for improvement may include corrective action (see 10.2), continual improvement (see 10.3) but also breakthrough and innovation opportunities. In other words, organizations should not only seek to improve the EMS in incremental steps but should also try to jump to distinctly higher levels of environmental performance.

► IMPLICATIONS FOR AUDIT PROFESSIONALS:

Auditors should continue to seek objective evidence that improvement is taking place. They should note, however, that while improvement does not need to be continuous, it does need to be evidenced as occurring.

To audit this requirement in an effective manner, auditor will have, once more, to gather as much information as possible on the organization that is going to audit, on the industry in general, on the technologies available and on trends in the business.

10.2 Non conformity and corrective action

► INTERPRETATION:

This clause sets out how the organization is required to act when nonconformity is identified. In such instances, the organization is required to take whatever action is necessary to control and correct the nonconformity, and to deal with any resultant environmental impact. The organization should also determine if similar non-conformity has occurred elsewhere and consequently whether it needs to take similar corrective action.

In the case of an emergency, the organization should trigger the emergency plan (see 8.2).

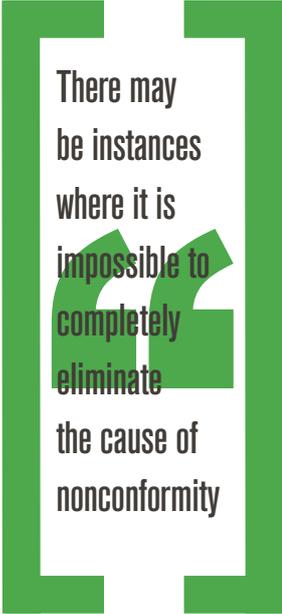
The organisation has also to consider whether any further action is required to prevent a similar nonconformity recurring at the same place or occurring somewhere else, at some point in the future. This requires the organization to determine what caused the nonconformity and then to consider whether the potential for a similar problem remains.

The organization must then implement any actions identified as necessary to eliminate the cause of the non-conformity, must review their effectiveness and must make changes to the EMS itself if so required.

This clause also recognises that the actions organizations take on nonconformities should be appropriate to the effect of those nonconformities.



The items that top management must consider during a management review are mainly the same as in the previous edition



There may be instances where it is impossible to completely eliminate the cause of nonconformity

► **IMPLICATIONS FOR ENVIRONMENT PROFESSIONALS:**

This clause can be seen as an example of improvement required in 10.1 “General”

On discovering nonconformity, there is now an explicit requirement for organizations to determine whether other similar nonconformities actually do or potentially could exist elsewhere. Actions taken elsewhere to prevent the occurrence of a similar non-conformity may be seen as a preventive action, using the ISO 14001:2004 terminology.

There may be instances where it is impossible to completely eliminate the cause of nonconformity. Therefore in some instances, the best organizations can do is to reduce the likelihood or the consequences of a similar occurrence happening again in order to reduce the risk to an acceptable level.

Documented information to be retained is not only the results of the actions taken (as in the previous edition) but also the nature of the nonconformities as well as any subsequent actions taken.

► **IMPLICATIONS FOR AUDIT PROFESSIONALS:**

Auditors should evidence that, where nonconformities have been identified by an organization, an investigation has been conducted to determine whether other similar nonconformities actually do or potentially could exist.

They should also evidence that where a non-conformity has occurred, the organization has considered whether it needs to make changes in the EMS to prevent recurrence or occurrence elsewhere.

Ensure that the required documented information is available.

10.3 Continual improvement

► **INTERPRETATION:**

This clause requires the organization to work continually to improve its EMS in terms of its suitability, adequacy and effectiveness.

The standard provides help to interpret some terms used in this clause:

- “continual” means that this activity occurs over a period of time, but with potential intervals of interruption, while “continuous” means duration without interruption
- “suitability” means how the EMS fits the organization, “adequacy” whether it meets the requirements of ISO 14001:2015, “effectiveness” whether it is achieving the desired results.

► **IMPLICATIONS FOR ENVIRONMENT PROFESSIONALS:**

This clause should be seen as another example of improvement as required in 10.1 “General”

Note Clause 10.3 requires the organization to improve its EMS, but its environmental performance can be enhanced by just applying the EMS or improving one or more of its elements.

► **IMPLICATIONS FOR AUDIT PROFESSIONALS:**

Auditors should evidence that organizations are using the outputs from their analysis and evaluation, internal audit and management review processes to identify improvement opportunities and EMS underperformance. They should also verify that the organization is using suitable tools and methodologies to support its investigations.

They should also check whether the organization has implemented the identified opportunities for improvement in a controlled manner.

Annex A (informative) Guidance on the use of this International Standard

This useful annex contains guidance to prevent the misinterpretation of the requirements of ISO 14001:2015.

Annex B (informative) Correspondence between ISO 14001:2015 and ISO 14001:2004

BIBLIOGRAPHY

Other ISO standards related to environmental management. It is highly recommended to have a look at:

- ISO 14031 (provides guidance on environmental performance evaluation and indicators)
- ISO 14044 (provides requirements and guidance on life cycle assessment)
- ISO 31000/ISO Guide 73 (provide guidance on risk management).

Alphabetical index of terms

5. CONCLUSIONS

When ISO 14001:2015 was published in September 2015, it signalled the start of a three-year transition period during which those organizations wishing to move to the new version of the standard will need to make changes to their existing environmental management systems.

The extent of work involved will very much depend on each organization's starting point. Those who have aligned their EMS to their strategy and decision making processes at all levels, will have respectively less work compared to those who are simply meeting the requirements at present.

For organizations that rely on ISO 14001 certification to demonstrate their commitment towards the environment, the loss of such certification will invariably have a direct impact on potential breaches of the law or the organization's external reputation. By starting now you can ensure you effect your transition in a controlled and timely manner well ahead of the September 2018 deadline.

Environment practitioners should start by familiarising themselves with the revised requirements as set out in this report and should then prepare plans to modify their existing environmental management systems as necessary. Top management need to understand their new obligations and must be prepared to evidence leadership (in addition to management) of their EMS.

Internal and external auditors will need to up skill, to equip themselves to assess a standard where old friends such as the management representative, the environmental manual and procedures (documented or not) may have disappeared and where new evidence sources have been introduced in their place.

The CQI and IRCA recognise that the proposed changes may seem a little daunting. That is why we have committed to running a series of road shows, webinars, technical articles and briefings aimed at supporting our members. Whatever your role in the environment profession and whatever sector your organization may operate in, the CQI and IRCA will be on hand to provide informed and impartial advice to facilitate your transition.



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14001:2015
was published
in September
2015, it
signalled
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transition
period



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