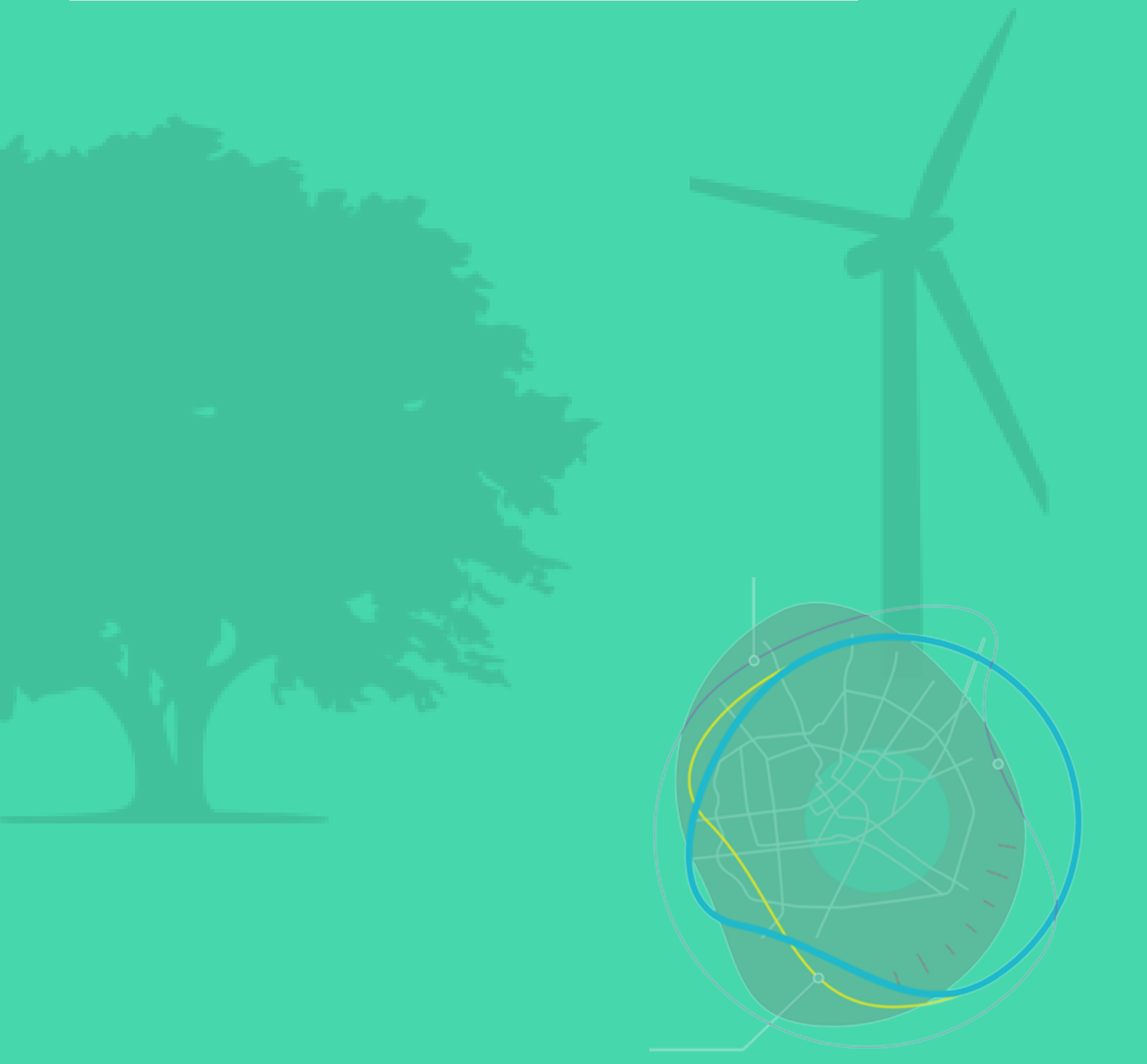
ISO 14001:2015 Standard Overview

Qualsys

Understand the environmental management system standard and how to apply the framework in your business.



An effective environmental management system takes more than a single software solution or achieving a certificate for the wall. It takes time, energy, commitment and investment.

Qualsys' software and solutions provide your entire organisation with the tools and knowledge they need to effective plan, monitor and improve environmental performance.

We've worked with global brands such as Sodexo, BT Global Services and Diageo, as well as hundreds of SMEs, to help them make good practice natural and invisible.

Founded in 1995, Qualsys Ltd is now one of the largest privately owned governance, risk and compliance software providers in the UK.

Our software solutions are in use every day across more than 100 countries across the globe. The software helps meet Standards such as ISO 14001 and compliance requirements of the Environmental Agency.

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Brands we work with

Introduction to ISO 14001:2015 & How to apply the standard to your organisation:

Qualsys

1.

Introduction to ISO 14001:2015

What is ISO 14001?

Welcome to ISO 14001:2015

We all need to play our part in reducing our environmental impact.

ISO 14001 provides a framework to guide your business to reduce environmental impact.

The Standard was first published in 1996. Since, there were some minor changes made in 2004 to better align it with the ISO 9001 standard. The aim of this was to prevent duplication of effort so businesses can focus less on paperwork and more on implementing practices which reduce impact on the environment.

This duality is developed further in the 2015 revision with both standards based on Annex SL. This inscribes a new, high-level structure that connects management systems through a common framework. As a result, a key difference in the 2015 version is the connection, and integration, of the environmental management system with the rest of the business processes already established as core operational systems. This integration of environmental management with other management processes makes it easier to involve the entire business.

Applicable to any size or type of organisation, ISO 14001 essentially requires an Environmental Management System (EMS) be established to control and improve an organisation's relationship with the environment.

Businesses currently certified to ISO 14001:2004 have until September 2018 to transition to the revised Standard.

After this transition period certification to ISO 14001:2004 will be out of date.

Through compliance, it is possible to tailor your organisation's effort to reduce energy costs, improve customer relations and comply with regulatory imperatives.

As with the 2004 standard, ISO 14001:2015 is based on the Plan-Do-Check-Act (PDCA) operating principle.

With relation to environmental management, this principle can be summarised as:

1. Plan:

Undertake a review to determine environmental factors affecting or affected by your organisation. Define objectives, targets and plans to meet these in order to improve your environmental performance.

2. Do:

Implement the plans defined above.

3. Check:

Measure your progress against your targets and objectives.

4. Act:

Take action to continually improve your environmental performance. ISO 14001:2015 contains major revisions in clauses 4 through 9. These clauses relate to context, leadership, planning, support, operations, performance evaluation and improvement.

About this guide:

Use this guide to understand the Standard and get buy-in to apply environmentally friendly practice to your business.

2.

Clause 4: Context

How do I define context for my EMS?

A PEST Analysis of your business

Context is entirely new and requires organisations to consider and understand all of the environmental factors affecting or affected by their EMS.

By considering the context, organisations ensure that internal and external issues that can impact strategic objectives, processes and the outcomes of the EMS are considered.

Context becomes important in ensuring that the management system is designed and suitably tailored to be relevant to a specific organisation.

This maximises the associated benefits that an organisation can access through conformance with ISO 14001:2015.

A simple and effective approach to understanding your organisation's context consists of five steps:

1. Identify the internal environmental issues.

2. Identify the external environmental issues.

3. Identify your interested parties and their requirements.

4. Define the scope of your EMS.

5. Monitor and review internal and external issues over time.

Internal context is affected by governance goals, contractual relationships with customers, and interested parties.

Internal issues can include:

- Regulatory requirements
- Strategic direction to adhere to policies and achieve objectives
- Current levels of waste, emissions and impact
- Relationship with staff and stakeholders, including partners and suppliers
- Resources and knowledge (e.g. capital, people, processes and technologies)
- Assets
- Product or service
- Standards, guidelines and models adopted by the organisation
- Information systems
- Culture
- Capability

To determine external context, an organisation should consider issues arising from its social, technological, environmental, ethical, political, legal and economic situation.

This may include:

- Government regulations and changes in the law
- Economic shifts in the organisation's

market
- Competitive context
- Public relations
- Technological advances
- Pre-existing land contamination
- Climate volatility
- Resource availability
- Population

An organisation's interested parties include customers, partners, employees and suppliers.

When an organisation is developing an EMS it needs to consider which interested parties are affected by the organisation's environmental performance and any compliance obligations associated with them.

Organisations must define the scope of their EMS so that their compliance obligations are within reasonable operational boundaries.

Organisations should consider their own corporate context, expectations of interested parties and the most significant processes that the EMS applies to. The scope should be documented, and include all products, services and activities with significant environmental aspects. Regular management review is necessary to monitor an organisation's internal or external issues and adapt the EMS ccordingly. Once the internal context is understood management can conduct an external analysis. Organisations may find it useful to conduct a 'PEST' analysis (Political,

Economic, Social and Technological). By doing this, the organisation can determine which factors will affect, and are affected by, its operations.

While an organisation has no control over external risks, it can adapt to them. PEST factors can be classified as 'risks' and 'opportunities' in a SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) or other alternative methods.

Example:

"ABC Ltd is a plastic bottle manufacturer. The business values longevity, the health of our customers and the planet."

Internal Strength

Recycling 60% of business waste
Bike to work scheme
LED bulbs used throughout site
Many suppliers are within a 50 mile radius

Internal Weakness

10% product waste
Paper processes
Factory sources energy from Coal
Vehicles using petrol fuels
Products are not fully bio-degradeable
Heating cost of buildings

External Opportunity

Government grants for insulation of buildings, removal of hazardous waste
Carbon offsetting projects
New Environmental agency laws
Local Universities offering partnerships
New reusable materials available for packaging

Internal Strength + External Opportunity:

Calculate employee annual mileage and offset emissions.

Aim for 80% recyclable materials by introducing the new reusable materials.

Internal Weakness + External Opportunity:

Use the government grant to insulate buildings and reduce heating.

Partner with the University for research on biodegradeable products.

External Risk

Customers want products from environmentally friendly sources
Supplier performance

Internal Strength + External Risk:

Team up with the marketing team to promote all the good work the business is doing and communicate plan.
Audit the suppliers on a regular basis and set targets,

Internal Weakness + External Risk:

Recycling 60% of business waste
Bike to work scheme
LED bulbs used throughout site
Many suppliers are within a 50 mile radius

3.

Clause 5: Leadership

What are the new leadership requirements?

Active engagement with the EMS

Top management are now responsible for the EMS. This ensures commitment and support for the EMS is strategic, operational and tactical.

The aim of this is to promote a culture where environmental management is the responsibility of all - so it is embedded into the culture.

By leading from the top, organisations can demonstrate their commitment to environmental management and integrate environmental management effectively into business processes.

In the ISO 14001:2015 standard there are three key changes that concern leadership:

1. a new Leadership and Commitment sub clause

2. extensions to requirements of the environmental policy

3. updates to clauses concerning organisational roles, responsibilities and authorities

The new Leadership and Commitment sub clause outlines that top management cannot delegate certain roles. There must be responsibility taken by representatives at the highest level (for any part of the organisation covered by the scope of the EMS) for a number of aspects of the EMS including:

- Consideration of environmental performance in strategic planning
- Formulating environmental policy
- Communicating the importance of effective environmental management, including, but not limited to, conformance to the EMS.
- Support of manager roles relevant to the EMS
- Promoting continuous improvement
- Establishing the organisation's environmental policy
- Reviewing and monitoring of the EMS

Essentially, organisations must ensure that top management holds some direct responsibility and accountability for the EMS so that environmental considerations become a routine component of strategic planning.

In addition to the commitment to the prevention of pollution required by the 2004 standard, the updated standard will require a comprehensive policy commitment to the protection of the environment.

Top management must be responsible for formulating the environmental policy, and must implement, document, communicate, and expect personnel to comply with, that policy.

In formulating an environmental policy, issues that management may need to consider include:

- Prevention of pollution
- Sustainable resource use
- Climate mitigation and adaption
- Environmental context of the organisation
- Responsible waste disposal
- Control of emissions
- Compliance obligations

In order to provide effective environmental leadership, management must assign all EMS roles, responsibilities and authorities and communicate them to the relevant personnel.

There is no specific requirement for a specified management representative as specified under ISO 14001:2004. However, organisations must continue to ensure that the roles, responsibilities and authorities attributed to a management representative are assigned somewhere in the organisation.

4.

Clause 6: Planning

How do I plan our business approach for an EMS?

Planning your approach

Planning has been edited and now requires organisations to plan processes that address environmental factors and associated risk at every stage of their operations.

It also updates the requirements for setting environmental objectives and introduces a new clause focused on 'planning to take action'.

The changes in ISO 14001:2015 require organisations to take a 'risk based approach' to their Environmental Management System (EMS).

The incorporation of Annex SL into the ISO 14001:2015 revision is a key driver towards the 'risk based approach'. Incorporating what was previously titled 'Preventive Action', the risk based approach requires an organisation to determine what threats and opportunities could arise from their operations, plan actions to address these threats and opportunities, implement the actions into its EMS processes and evaluate the effectiveness of these actions.

Conducting a risk based approach ensures your organisation is proactive rather than reactive, preventing potentially damaging events and promoting improvement. Once a management system is risk based, preventive action is automatic.

While risk is commonly understood to be negative, in risk based thinking opportunities can also be found – this is the positive side of risk. Analysis of risks can often bring forth opportunities for improvement and enable businesses to make strategic decisions. The application of a robust EMS can also be considered an important aspect of risks and opportunities.

Environmental management should be viewed as more than an opportunity to improve compliance; agood system enables you to reduce threat and also intelligently take risks that can deliver associated benefits for both the environment and your organisation.

In order to get a comprehensive picture of associated threats and opportunities, an organisation must consider its own context and the objectives of interested parties in order to:

a) Give assurance that the EMS can achieve its intended result(s)
b) Prevent, or reduce, undesired effects
c) Achieve continual improvement.

To determine risks and opportunities quality professionals must first determine their organisation's objectives before management can identify potential events affecting their achievement. They must consider issues that may affect their

organisation's values, culture, knowledge and performance. An organisation must then consider how these issues may impact on the organisation's ability to deliver products and services that meet customer and applicable statutory and regulatory requirements.

These issues can be considered from an internal perspective such as strategies to achieve its policies and objectives and the organisation's relationship with its staff and stakeholders (including partners and suppliers), but also from an external context such as issues arising from political, economic, social and technological changes within the sector.

ISO 14001:2015 defines a risk as 'the effect of uncertainty on an expected result'. Therefore:
• an effect is a deviation from the expected positive or negative
• risks are about what could happen and what the effect of this happening might be.
• quantitative consideration of risk also considers the likelihood of an event occurring

While the ISO 14001:2015 revision does not formally require you to carry out a full risk assessment or to
maintain a risk register, it does mandate that the organisation is required to monitor, measure, analyse and evaluate the risks and opportunities.There are various methods to approaching ISO 14001:2015 risk based thinking; which method is appropriate is determined by the context of your organisation.

Planning actions to address risks and opportunities can include:
• avoiding risk
• eliminating the risk source
• changing the likelihood or consequences (likelihood and impact)
• sharing the risk, retaining risk by informed decision
• taking risk in order to pursue an opportunity

When planning actions to address risks, it is again necessary to consider the context of the organisation in question. For example, the process of planning actions to mitigate a potential fault with a nuclear reactor at a power plant will be much more thorough and meticulous than planning actions to mitigate the risk of ordering too many or too few mugs to replace polystyrene cups.

Similar to this, the risk of an economic downturn in a country an organisation has little trade or links with is minor in comparison to a recession in the country it solely trades and operates. It is essential to understand your organisation and its strategic direction as this will enable you to determine and address its associated risks.

This means you need to check the effectiveness of actions to address risk. You need to ask, 'Does it really work?'. There are various methods an organisation can check the effectiveness of actions to address risk, including:

- audits and internal reviews
- KPI analysis
- project evaluations

An important aspect of checking the effectiveness of actions to address risk is having the right data available to make informed decisions. By improving risk data aggregation capabilities, organisations can strengthen the capability and the status of the risk function to make judgments. This leads to gains in efficiency, reduced probability of losses, enhanced strategic decision-making and ultimately increased profitability.

While the concept of risk has always been implicit in ISO 14001 and many organisations have already recognised the benefit of a risk based approach, the 2015 revision makes it more explicit and encourage organisations to build it into their EMS. Business risks are currently increasing worldwide, reflecting widespread political, economic and social uncertainties. Under ISO 14001:2015 risk based thinking, organisations are mandated to adopt a risk based approach to improve customer confidence and satisfaction, assure consistency of quality of goods and services and to establish a proactive culture of prevention and improvement.

The full planning process for the EMS should incorporate this approach to risk, but must also cover other bases related to environmental performance. The complete assessment of EMS risks and consequent planning process should:

- Consider the context of the organisation
- Consider the compliance obligations (but not necessarily the views) of the interested parties
- Consider the compliance obligations of the organisation
- Consider the environmental aspects and their potential impacts
- Identify threats to the performance of the EMS, both those that could disrupt operations or decrease functionality.
- Identify opportunities for increased functionality.
- Develop plans for actions to mitigate threats and maximise benefits to the EMS' operation, both initially and over time.
- Develop plans for actions to meet compliance obligations
- Develop plans to integrate these actions into the EMS

Organisations need to identify the

environmental impacts that their operations could have. Considering the context of the particular organisation, environmental aspects must first be identified. An environmental aspect is any element or characteristic of an activity, product, or service that can interact with the environment.

Environmental aspects can cause environmental impacts, which is defined as any change in the nature of the environment as a result of an activity. These can be beneficial or adverse, major or minor, direct or indirect.

Organisations must consider the likely impacts of their activities and plan to mitigate associated threats and maximise associated benefits as far as is possible.

ISO 14001:2015 also mandates that organisations monitor, communicate and update the environmental objectives of the organisation. This means that organisations will have to set objectives at the relevant levels for relevant functions to meet their compliance obligations in line with their own environmental aspects and risk factors.

All relevant personnel should be aware of these environmental objectives and the EMS should monitor the extent to which they are achieved, flagging up areas where environmental performance needs to improve. In planning actions to achieve the objectives, organisations must also document details of required resources and a clear process by which results will be achieved.

Setting appropriate environmental objectives, and considering the likely impacts of an organisation's activities on those objectives, is best done by a Risk Planning Process, by which organisations:

- Identify environmental aspects within the scope of the EMS.
- Establish criteria to identify "significant" environmental impact.
- Map environmental aspects to potential impacts and identify which aspects may lead to significant impacts.

The risk associated with the performance of the EMS itself must also be considered. Organisations must plan to ensure their EMS achieves its objectives while minimising negative environmental impact in an effort to continually improve their EMS.

Organisations should also aim to minimise the environmental threat posed by the equipment they use, and in order to extend this continual improvement across the full life cycle of the product or service, organisations should assess and review their supply chain.

5.

Clause 7: Support

What am I going to need for the EMS?

Allocating resource

Support contains extensions of previous support requirements to promote a consistent approach across all departments to conformance with an organisation's Environmental Management System (EMS.)

ISO 14001:2015 means that organisations must determine and provide all the necessary resources required by their EMS, by ensuring that:

1. Personnel are competent
2. Communications are transparent and clear
3. Documented information (previously "documents" and "records") is properly controlled.

ISO 14001:2015 requires that an organisation ensures that any personnel who could conceivably affect environmental performance are competent. This is an extension of the 2004 requirement for competence of personnel who could cause significant environmental impact.

In order to demonstrate competence, organisations should:

- Identify required competence
- Acquire required competence through training /reorganisation where there are shortcomings
- Document competence of personnel to handle environmental aspects
- Retain documentation as evidence of competence to handle environmental aspects

In order to meet competence requirements, organisations need to monitor and, where necessary, improve the competence of their employees.

New communication requirements encourage all relevant departments to actively contribute to the continual improvement of the EMS, both within the organisation and in external bodies acting on behalf of the organisation. Essentially, the updated standard requires that organisations develop a communications strategy to plan when, where, how and with whom communications take place.

This strategy should ensure that communications:

- include information on environmental

performance
• cover all levels and functions of the organisation
• are extended to include people working on
behalf of the organisation to aid continual improvement
• remain consistent with the EMS
• fulfil compliance obligations
• receive responses when they concern the EMS
• facilitate staff suggestions for improving performance of the EMS

To ensure that staff understand and engage with the EMS, it is essential that documented information is available explaining:

• how the EMS works
• the scope of the EMS
• where to find information relevant to particular staff roles

ISO 14001:2015 requirements necessitate that the documented information associated with the EMS is properly organised. It mandates that organisations develop controls to ensure that documented information relating to the EMS is:

• signposted to those who need access
• appropriately formatted and presented
• adequately protected
• reviewed and approved

6.

Performance Evaluation

How will I measure my EMS?

Measuring effectiveness

Performance Evaluation is a new clause that has arisen from the restructuring of the standard, formed out of the old management, measurement and review requirements. It is split into 3 sub clauses: Internal Audit, Management Review, and Monitoring, Measuring Analysis and Evaluation.

The Performance Evaluation clause mandates that organisations determine, when and how performance is to be monitored, measured, analysed and evaluated.

An internal audit is included in order to ensure that the EMS meets the requirements of the organisation (as well as conforming to ISO 14001:2015) and that it is being successfully implemented and maintained. It is required that performance indicator data be used, and an appropriate source of these is the "environmental conditions" that an organisation identifies as related to their operations and measurable.

An environmental condition is defined as a state of he environment as determined at a given point in time. In a successful EMS, such performance indicators should be easily identifiable and regularly monitored, measured and reviewed to drive continual improvement.

The organisation is expected to determine:

- which variables it needs to monitor and measure including risks, environmental objectives and environmental controls,
- how and when it will do this, and
- the criteria to be used to measure environmental performance using the relevant indicators

Not every part of the monitoring process requires the formulation of an indicator, as the standard recognises that some methods used to monito performance may include qualitative checks or inspection. However, the standard does state that if "practicable" then an organisation should define and evaluate an indicator to evidence that their environmental objectives are being achieved.

Dependent on whether objectives are set at a strategic level or vary between individual sites and activities, the nature of the objectives, and the measurability of associated performance, the appropriate performance will vary widely both within and between organisations.

Organisations should give very careful thought as to which Key Performance Indicators (KPIs) it incorporates into its Performance Evaluation. In some cases this will be straightforward if the objective is itself quantified (for example, reduced fuel consumption in the transportation of a product.)

If, however, objectives are defined in more general terms, for example improving environmental awareness of staff at management level, appropriate ways to monitor performance are more elusive. Methods such as management surveys on opinions on the importance of environmentalissues, within the context of the organisation, may be useful.

Another option is to break the objective down into quantifiable sub targets and measure performance against their execution. An example of such targets would be to ensure that staff attend a certain number of hours training to improve environmental awareness, or that a given number of management staff are subscribed to a newsletter specific to environmental performance in the sector in which the organisation operates.

6.

Improvement

How will I ensure the EMS is always improving?

Why ISO 14001:2015?

Improvement expands somewhat on the previous requirements for the considerations of non-conformity and taking action in response to non-conformity.

The 2015 standard clarifies that the purpose of the EMS is to provide a system to improve an organisation's environmental performance.

The improvement requirements have been refined. Previously, the standard required the EMS be continually improved. Now, the EMS must be continually improved and that the EMS be used to improve the overall environmental performance of the organisation.

The improvement of the EMS and with it the environmental performance of the organisation is to be achieved through consideration of, and corrective action directed towards, the:

- suitability,
- adequacy, and
- effectiveness

of the EMS

Question about your Environmental Management System?

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