

REQUIREMENTS OF ISO 14001

In order to effectively implement and benefit from an ISO 14001 EMS, it is important to have an understanding of the standard's requirements. A quick review of the standard shows that it is structured following the Plan, Do, Check, Improve philosophy of the Total Quality Management movement, as follows:

PLAN

4.2 Policy

4.3 Planning

DO

4.4 Implementation and Operation

CHECK

4.5 Checking and Corrective Action

IMPROVE

4.6 Management Review

Within these five elements are 17 sub-elements stating the various requirements.

4.2 Policy

4.3 Planning

4.3.1 Environmental Aspects

4.3.2 Legal and Other Requirements

4.3.3 Objectives and Targets

4.4.4 Environmental Management Programs

4.4 Implementation and Operation

4.4.1 Structure and Responsibility

4.4.2 Training Awareness and Competence

4.4.3 Communications

4.4.4 EMS Documentation

4.4.5 Document Control

4.4.6 Operation Control

4.4.7 Emergency Planning and Response

4.5 Checking and Corrective Action

4.5.1 Monitoring and Measurement

4.5.2 Nonconformance, Corrective, and Preventive Action

4.5.3 Records

4.5.4 EMS Audit

4.6 Management Review

Within these 17 sub-elements are all of the requirements, or “shalls”, necessary to conform to ISO 14001. There is no substitute for reading the standard in terms of recognizing the requirements. As a matter of fact, no auditor should embark on an audit without having easily available the criteria to which they are doing the audit. However, below we briefly summarize the key points of the sub-elements. This summary is not intended to be a replacement for ISO 14001, and should not be used exclusively as such during an audit.

Detailed Section by Section Summary

4.2 Policy

ISO 14001 requires that the organization have a policy statement to drive the EMS. These tend to be short, one page or less documents, and simply affirm the commitments. There is no expectation that specific details be noted in the policy. For example, the commitment to pollution prevention can simply be stated saying, “we are committed to prevention of pollution”. The policy must be clearly endorsed by top management and be available to the public and employees. Although the availability to the public can be rather passive; i.e. “is here if they want it”, there is an expectation that the employee awareness is more proactive. Section 4.2 of ISO 14001 lists the other requirements of the policy.

4.3.1 Environmental Aspects

This element requires a procedure that not only identifies the aspects and impacts, but also provides for determination of significance, and keeping the information up to date. ISO 14001 does not prescribe what aspects should be significant, or even how to determine significance. However, it is expected the organization will develop a consistent and verifiable process to do so.

4.3.2 Legal and Other Requirements

This is a requirement for a procedure that explains how the organization obtains information regarding its legal and other requirements, and makes that information known to key functions. This is not the assessment or compliance audit requirement, but rather a more up front determination of requirements.

4.3.3 Objectives and Targets

There is no requirement for a procedure in this element, only that objectives and targets be documented. It does require that certain items be considered in developing the objectives, such as legal requirements and prevention of pollution. It is sometimes

easiest to develop a procedure anyway for this element to be able to verify these considerations were made.

4.3.4 Environmental Management Programs (EMP)

EMPs are the detailed plans and programs explaining how the objectives and targets will be accomplished. These EMPs usually note responsible personnel, milestones and dates, and measurements of success. Noting monitoring and measurement parameters directly in the EMP facilitates conforming to 4.5.1 on Monitoring and Measurement discussed below.

4.4.1 Structure and Responsibility

ISO 14001 requires that the relevant management and accountability structure be defined in this element. This usually takes the form of an organizational chart. Also, the organization must denote the Management Representative who is responsible to oversee the EMS and report to management on its operation.

4.4.2 Training Awareness and Competence

The key point in this element is that personnel must receive applicable training regarding the EMS. Specific requirements are itemized in ISO 14001, and include general, company-wide items such as knowing the policy, to more function-specific training on aspects and emergency response. An organization usually responds to this element with a training matrix, cross-referencing to training materials and records.

4.4.3 Communications

Procedures are required for both internal and external communications. Note that ISO 14001 only requires procedures, and allows the organization to decide for itself the degree of openness and disclosure of information. Whatever the decision in terms of disclosure, that decision process must be recorded.

4.4.4 EMS Documentation

This requirement is simply that the organization has documented the system in either electronic or paper form such that it addresses the elements of the standard and provides direction to related documentation. Not all ISO 14001-required procedures need to be documented, as long as the system requirements can be verified.

4.4.5 Document Control.

Procedures are required to control documents, such as system procedures and work instructions, and to ensure that current versions are distributed and obsolete versions are removed from the system.

4.4.6 Operational Control

This element is the one which connects the EMS with the organization as a whole. Here, the critical functions related to significant aspects and objectives and targets are identified and procedures and work instructions created to ensure proper execution of activities. Requirements for communicating applicable system requirements to contractors are also addressed.

4.4.7 Emergency Planning and Response

Although typically addressed through conventional emergency response plans, this element also requires that a process exist for identifying the potential emergencies, in addition to planning and mitigating them. A linkage to the aspects analysis, where impacts are assessed, is appropriate. Emergency incidents include those that may not be regulated, but may still cause significant impact as defined by the organization.

4.5.1 Monitoring and Measurement

Procedures are required describing how the organization will monitor and measure key parameters of operations. These parameters relate to the significant aspects, objectives and targets and legal and regulatory compliance. In order to properly manage the system, measurements must be taken of its performance to provide data for action. Responses to this element usually cross reference to many other specific procedures and work instructions describing measurement and equipment calibration. It is in this element that we find the requirement for what is commonly referred to as a compliance audit.

4.5.2 Nonconformance, Corrective, and Preventive Action

This element requires procedures for acting on nonconformances identified in the system, including corrective and preventive action. Nonconformances may be identified through audits, monitoring and measurement, and communications. The intent is to correct the system flaws. Typically, Corrective Action Report (CAR) forms are the norm, noting the nonconformance, the suggested fix, and closure of the action when completed. Note that this requirement does not imply in any way that the party identifying the nonconformance must be the one to suggest the fix. Instead, it is expected that the system provide for the information to be routed to the most appropriate party to address the concern.

4.5.3 Records

Records are expected to exist to serve as verification of the system operating. For example, records include audit reports and training records. Unlike controlled documents, records are “once and done” documents, resulting from the execution of some process or procedure. Procedures in this element are required for the maintenance of records.

4.5.4 EMS Audits

ISO 14001 requires that the system provide for internal audits. This procedure(s) will include methodologies, schedules, and processes to conduct the audits. Interestingly, the EMS audit will in essence, audit the audit process itself!

4.6 Management Review

This element requires that periodically, top management will review the EMS to ensure it is operating as planned. If not, resources must be provided for corrective action. For areas where there are no problems, the expectation is that with time, management will provide for improvement programs. Usually there is no detailed procedure for this element, although records of agendas, attendance, and agreed upon action items are maintained as verification.