Summary of Requirements for
ISO 14001:2004
February 24, 2005

This document provides a summary of the requirement of ISO 14001:2004, which is an international standard describing the specification and requirements for an environmental management system (EMS).

ELEMENT-BY-ELEMENT GUIDANCE

ISO 14001 Requirement: 4.1 General requirements
An organization must establish, document, implement, and continually improve their environmental management system and show how they meet all the requirements of this standard. The organization defines the scope of the EMS, i.e. the boundaries of the organization to which the EMS applies.

ISO 14001 Requirement: 4.2 Environmental Policy
The organization must have a policy, or commitment statement, developed by top management relative to the scope of the EMS that conforms to the standard. This is generally a short statement that drives the remainder of the EMS. There are specific items that must be committed to in the policy, such as compliance with legal and other requirements, prevention of pollution, and continual improvement. In addition, the policy must be communicated to all employees, and others working on behalf of the organization, and be available to the public. The policy provides a framework for reviewing objectives and targets and be appropriate to the nature and scale of the entity included in the scope. This policy must be documented, implemented, and maintained. This means that it is kept current through the EMS review and continual improvement process, and is implemented through the remainder of the EMS elements.

ISO 14001 Requirement: Planning- 4.3.1 Environmental Aspects
This element requires a procedure to identify environmental aspects and related impacts that the organization can control or have influence over, and determine those which are significant to the organization.   ISO 14001 does not prescribe what aspects should be significant, or even how to determine significance. However, it is expected that a consistent and verifiable process is used to determine significance.

Aspects are defined as how an organization's activities products and/or services interact with the environment. An impact is how an aspect changes the environment. The intent of this element is to help the organization identify how it affects the environment, prioritize aspects, and use the EMS to manage, control, and improve upon the aspects. So the organization must ensure that the significant aspects are taken into account in the EMS.

In order to ensure that the system is continually improving and current, this information must be kept up to date.

ISO 14001 Requirement: 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 within the organization.

The intent of this element is to identify the environmental legal and other requirements that pertain to its operations and activities so that the organization can ensure that they are taken into account in the EMS. In doing so, the organization must also determine how these requirements apply to the significant aspects.

ISO 14001 Requirement: 4.3.3 Objectives, Targets, and Programs

There is no requirement for a procedure in this element. However, there must be some process that ensures that the objectives and targets are consistent with the policy, which includes the commitments to compliance with legal and other requirements, continual improvement, and prevention of pollution. Also, the organization must take into consideration significant aspects, legal and other requirements, views of interested parties, and technological, financial, and business issues when deciding what it wishes to accomplish as an objective. The objectives and targets need to exist at whatever functions and levels of the organization, and be measurable, where practicable.

Management programs (MPs) are the detailed plans and programs explaining how the objectives and targets will be accomplished. These MPs usually note responsible personnel, milestones and dates, and measurements of success. Noting monitoring and measurement parameters directly in the MP facilitates conforming to 4.5.1 on Monitoring and Measurement discussed below. MP's are required for the objectives and targets in an EMS.

ISO 14001 Requirement: 4.4.1 Structure and Responsibility

ISO 14001 requires that the relevant management and accountability structure be defined in this element. Top management is expected to ensure that resources are available so that the EMS can be implemented, maintained, and improved. These resources include human resources, organizational structure, financial and technological resources, and others as needed.

Roles, responsibilities, and authorities must be defined, documented and communicated as appropriate.

The organization must denote the Management Representative who is responsible to oversee the EMS and report to management on its operation. This person(s) ensures that the EMS is established, implemented and maintained consistent with ISO 14001, and also reports to top management on the performance of the system including recommendations for improvement.

ISO 14001 Requirement: 4.4.2 Competence, Training, and Awareness
The key point in this element is to ensure that persons performing tasks that have or can have significant impact on the environment and/or relate to the legal and other requirements are competent to do those tasks. Competence is ensured through appropriate education, training, and/or experience.

The organization needs to identify training needs as they relate to the EMS, the significant aspects, and the legal and other requirements and make sure this training is provided (records of such are to be maintained). A procedure is needed that makes sure such persons are: aware of the need to conform with all EMS procedures and requirements and what they specifically need to do to do so; the significant aspects and the legal and other requirements associated with their respective responsibilities and why improved performance is beneficial; and the consequences of not following these procedures and requirements. In addition to job-specific knowledge, it expected that all personnel within the EMS (including contractors) have general awareness on items such as the policy and emergency response.

ISO 14001 Requirement: 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 is in terms of disclosure, the decision process must be recorded. There is a specific requirement that the organization consider external communications about its significant environmental aspects and record its decision.

For internal communications, the procedure needs to describe how it is done among the levels of the organization. For external communications, it has to describe how external communications are received, documented, and a response provided.

ISO 14001 Requirement: 4.4.4 EMS Documentation
This requirement ensures that the organization has documented the system in either electronic or paper form such that it addresses the elements of the standard, describes how the organization conforms to each element, 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. However, documentation must be provided such that enough is available to ensure the effective planning, operation, and control of processes related to the significant aspects, and to demonstrate conformance to ISO 14001. Such documentation at a minimum includes policy, objectives and targets, a definition of the scope of the EMS, and other main elements.

ISO 14001 Requirement: 4.4.5 Control of Documents
The organization is required to control documents, such as system procedures and work instructions, to ensure that current versions are distributed and obsolete versions are

removed from the system. There is a requirement for a document control procedure that ensures documents are approved prior to use, are reviewed and updated as necessary, changes to versions are identified, that the current versions are available at points of use, that they are legible, identifiable, and that obsolete ones are so noted to avoid unintended use. It is acceptable to use documents of internal origin in the EMS, but those must be identified as being essential to the EMS and their distribution controlled.

ISO 14001 Requirement: 4.4.6 Operational Control

For this element, critical functions related to the policy, significant aspects, the legal and other requirements, and objectives and targets are identified and procedures and work instructions are required to ensure proper execution of activities. Requirements for communicating applicable system requirements to contractors also need to be addressed in these procedures.

The required procedures need to provide instruction such that the organization conforms to the policy, objectives and targets, the legal and other requirements, and addresses any impacts from significant aspects. Which procedures are needed can be determined by review of the significant aspects, objects and targets, the legal and other requirements, and policy and then deciding what must be proceduralized and documented to ensure that deviations from planned arrangements do not occur.

In regard to the contractors, the organization will need to establish procedures related to the significant aspects the legal and other requirements, of the goods and services it uses, and communicating the relevant elements of those procedures to the suppliers and contractors.

ISO 14001 Requirement: 4.4.7 Emergency Preparedness and Response

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

As part of continual improvement, it is required that the organization not only responds to emergency situations, but also reviews the emergency procedures and make improvements as necessary. This may involve periodic testing of emergency procedures, if practicable.

ISO 14001 Requirement: 4.5.1 Monitoring and Measurement

In order to properly manage the system, measurements must be taken of its performance to provide data for action. Procedures are required describing how the organization will monitor and measure key parameters of operations. These parameters relate to the operations that can have significant impacts, to monitor performance towards the objectives and targets, and to monitor conformance to the legal and other requirements and other EMS requirements.

Equipment related to environmental measurements, such as temperature and pH meters and pressure gauges, must be calibrated according to procedures, and records maintained.

ISO 14001 Requirement: 4.5.2 Evaluation of Compliance
The first part of this element (4.5.2.1) requires the organization to have a procedure(s) to periodically evaluate its compliance with applicable legal requirements as defined in 4.3.2. The organization will need to keep records of these periodic evaluations.

ISO 14001 in 4.5.2.2 also requires a similar evaluation for compliance with other requirements. Again these are defined in 4.3.2 and the procedure can be the same as, and even part of, 4.5.2.1.

ISO 14001 Requirement: 4.5.3 Non-conformances, Corrective and Preventive Action
This element requires procedures for acting on non-conformances identified in the system, including corrective and preventive action. A non-conformance is a situation where the actual condition is not in accordance with planned conditions. Someone not following a procedure, a regulatory non-compliance, or an incident, is all examples of possible systemic non-conformances. Non-conformances may be identified through audits, monitoring and measurement, and communications. The intent is to correct the system flaws by addressing root causes, rather than just fixing the immediate incident only. The standard also requires that trends in corrective actions be evaluated to see if deeper-rooted preventive actions can also be implemented.

The procedure needs to make sure the non-conformances are not only first addressed to mitigate environmental impact; but that further investigation occurs to determine their cause, and action taken to avoid it happening again. Preventive actions would then be those actions resulting from an evaluation as to why nonconformities are occurring and taking action to prevent their recurrence. The standard states that the corrective action is appropriate to the magnitude of the problem and the impacts encountered; to avoid either over-compensating or under-compensating for a problem.

The organization must record the results of corrective actions taken, and must also review the effectiveness of actions taken

ISO 14001 Requirement: 4.5.4 Control of Records
Records are expected to exist to serve as verification of the system operating and the organization's conformance to the standard and its own EMS requirements. Procedures in this element are required for the maintenance of records, and specifically require that records are identifiable, retrievable, safely stored, and legible, retained as appropriate, and traceable.

ISO 14001 Requirement: 4.5.5 Internal Audit

ISO 14001 requires that the system provide for internal audits. This procedure could include methodologies, schedules, checklists and forms, and processes used to conduct the audits. The purpose of this audit is to determine whether the system conforms to the requirements of ISO 14001 and the organization's own EMS detailed requirements, and if the EMS has been properly implemented and maintained. The procedure for internal audits has to address responsibilities and requirements for planning and executing the audits, reporting results, and what records will be generated (and maintained in accordance with 4.5.4). The procedures also address determination of audit scope, how often they will be conducted, and specifically how they will be done.

Auditors need to be selected such that it ensures objectivity and impartiality of the audit process.

ISO 14001 Requirement: 4.6 Management Review

This element requires that periodically, top management will review the EMS to ensure it is operating as planned, and is suitable, adequate, and effective. The organization needs to ensure that in the review: results of internal audits (EMS and compliance); external communications; environmental performance; status on objectives and targets; status of corrective and preventive actions; follow up on actions from prior management reviews; and changing conditions or situations; and recommendations for improvement are all discussed.

Results and records of management review include: agendas, attendance records, minutes, and documented agreed upon action items.