

ISO 14001 Environmental Management System Self-Assessment Checklist

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**-Revised November 2000 to reflect numbering
scheme of final standard-**

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ISO 14001

Environmental Management System

Self-Assessment Checklist

PURPOSE OF THIS CHECKLIST

This checklist and primer has been developed to improve facility managers' understanding of the requirements and elements of the environmental management system outlined in the ISO 14001 draft international standard. It is designed to allow for a rapid self-assessment of an organization or facility to determine how closely existing management practices and procedures correspond to the elements of the standard. The criteria of the draft standard have been rephrased in the format of a simple questionnaire, with a three-part scoring system, as explained in this document. In addition to a brief guide to self-scoring, a fuller description of what is required by the standard's criteria is included in the appendix. In this format, even with limited background knowledge of the ISO 14001 standard, a facility or other business manager can quickly review existing operations to determine how they measure up to the standard. This in turn can serve as the starting point of a "gap analysis" to identify management tools or system elements that might usefully be implemented in the organization to help improve overall environmental performance.

INTRODUCTION

Representatives from some fifty countries around the globe have recently agreed to the draft international standard (DIS) on environmental management systems (ISO/DIS 14001) issued by the International Organization for Standardization (ISO). It is expected that the standard will be formally adopted in 1996. It is intended that the implementation of an environmental management system (EMS) based on this standard will result in improved environmental performance. The standard is based on the concept that the organization will periodically review and evaluate its environmental management system in order to identify opportunities for improvement and their implementation. Improvements in its environmental management system are intended to result in additional improvements in environmental performance. When the ISO standard is formally adopted, it is anticipated that existing national EMS standards, such as BS 7750 (UK), IS 310, (Ireland), NF X30-200 (France) and UNE 77-801(2)-94 (Spain) will be withdrawn and replaced by the single international EMS standard. Adoption by the European Council of ISO 14001 as the standard to implement Council Regulation EEC/1836/93 on a Community Environmental Management and Audit Scheme (EMAS) is not yet decided.

Why introduce an environmental management system?

The environment has become an important factor in the decision-making process of companies around the world. Environmental issues are becoming more complex and interconnected. Traditional ways of addressing environmental issues - in a reactive, ad-hoc, end-of-pipe manner - are proving to be highly inefficient. As competition increases within the expanding global market, environmental laws and regulations are setting new standards for business in every region of the world. But good environmental performance is not just a legal or moral obligation. It also makes good business sense. Reducing pollution means increasing efficiency and wasting fewer resources. Improved health and safety conditions result in a more productive workforce. Supplying goods and services that respect the environment helps to expand markets and improve sales. In short, companies become more competitive when they practice good environmental management.

On the other hand, the risks posed by mismanaging environmental issues are complex and varied. They include the obvious, such as damage to the environment with negative consequences for the overall standard of living. They can also include damage to a company's reputation and a resulting loss of confidence among customers, neighbors and shareholders, the loss of market share, and, of course, legal liabilities.

Such risks cannot be dealt with on an ad-hoc basis. As with any financial or commercial risk, only a well-founded and properly implemented management approach can provide a measure of confidence that good performance is not an accident and that poor performance can be identified and rectified. By properly implementing an appropriate environmental management system (EMS), any company, large or small, can ensure that they effectively manage environmental risks while identifying and exploiting the myriad opportunities proper environmental management can bring. Such a systematic approach to environmental management is at the very heart of the ISO 14001 standard. This checklist is intended to allow managers of industrial facilities to review existing operations and management approaches against this standard to determine how well they measure up to what is soon to be considered as "state-of-the-art" in effective approaches to environmental management.

ELEMENTS OF ISO 14001

ISO/DIS 14001 is one of a series of emerging international environmental management standards aimed at promoting continual improvement in company environmental performance through the adoption and implementation of an environmental management system. The (draft) standard specifies the core elements of an EMS, but contains only those elements that may be objectively audited for certification or self-declaration purposes. A companion guidance standard, ISO/DIS 14004 includes examples, descriptions and options that aid in the implementation of an EMS and in integrating the EMS into overall management practices. It is not intended for use by certification/registration bodies.

ISO/DIS 14001 defines an overall environmental management system, closely modeled on the ISO 9000 quality systems standard, and covers the following key elements:

- **Establishment of an appropriate environmental policy** that is documented and communicated to employees and made available to the public, and which includes a commitment to continual improvement and pollution prevention, regulatory compliance and a framework for setting objectives;
- **A planning phase** that covers the identification of the environmental aspects of the organization's activities, identification and access to legal requirements, establishment and documentation of objectives and targets consistent with the policy, and establishment of a program for achieving said targets and objectives (including the designation of responsible individuals, necessary means and timeframes);
- **Implementation and operation of the EMS** including the definition, documentation and communication of roles and responsibilities, provision of appropriate training, assurance of adequate internal and external communication, written management system documentation as well as appropriate document control procedures, documented procedures for operational controls, and documented and communicated emergency response procedures;
- **Checking and corrective action procedures**, including procedures for regular monitoring and measurement of key characteristics of the operations and activities, procedures for dealing with situations of non-conformity, specific record maintenance procedures and procedures for auditing the performance of the EMS;
- **Periodic management reviews of the overall EMS** to ensure its suitability, adequacy and effectiveness in light of changing circumstances.

The EMS as outlined in ISO 14001 provides a structured process for the achievement of continual improvement, the rate and extent of which is determined by the organization in light of economic and other circumstances. Although some improvement in environmental performance can be expected due to the adoption of a systematic approach, it should be understood that the EMS is a tool which enables the organization to achieve and systematically control the level of environmental performance that it sets itself. The establishment of an EMS will not, in itself, necessarily result in an immediate reduction of adverse environmental impact. Indeed, care needs to be taken that the mere establishment of an EMS does not lull the organization into a false sense of security. But effectively used, an EMS should enable an organization to improve its environmental performance and avoid or reduce adverse environmental impacts over time.

An organization has the freedom and flexibility to define the boundaries of its system and may choose to implement an EMS throughout the entire organization, or within specific operating units or activities of the organization. If it is implemented for a specific operating unit or activity, policies and procedures developed by other parts of the organization can be used to meet the requirements of an environmental management system, provided that they are applicable to the specific operating unit or activity that will be subject to the environmental management system. The level of detail and complexity of the environmental management system, the extent of documentation and resources dedicated to it will be dependent on the size of the organization and the nature of its activities. This may be the case in particular for small and medium-sized enterprises.

Integration of environmental matters with the overall management system can contribute to the effective implementation of the environmental management system, as well as to the efficiency and clarity of roles.

In many aspects, the ISO 14001 standard shares common management system principles with the ISO 9000 series of quality system standards. In the beginning of the ISO 14001 standard, it states that “organizations may elect to use an existing management system consistent with the ISO 9000 series as a basis for its environmental management system. It should be understood, however, that the application of various elements of the management system may differ due to different purposes and different interested parties. While quality management systems deal with customer needs, environmental management systems address the needs of a broad range of interested parties and the evolving needs of society for environmental protection.”

Related Standards Under Development

The ISO 14000 family of standards also includes other draft standards related to environmental management systems that will soon be available for trial. These include standards on environmental auditing and related environmental investigations, environmental labeling, environmental performance evaluation, life-cycle assessment, terms and definitions and environmental aspects in product standards.

HOW TO USE THIS CHECKLIST

On the following pages are a series of questions to identify to what extent your environmental management system is complete in comparison to the requirements set in the ISO 14001 standard.

To facilitate answering the questions, there is a table beneath each question with three columns of examples. Each column corresponds to a score. The examples in the first column illustrate a situation which does not comply at all with the requirement and has the score “0”. The examples in the second column illustrate a situation where the requirement is more or less fulfilled, but where there is still room for improvement and a score “1” applies. Finally in the third column, the examples illustrate a situation in which the requirement appears to be completely fulfilled and a score “2” applies.

How to Score

It is possible to calculate a score by using one of two methods. In the first method, you should begin with the first column to determine if the situation described therein accurately reflects the situation in your organization or facility. If not, then proceed to the second column and make the same decision. Eventually, move on to the third column and ask the same questions. In this way, you “build” progressively on your score.

0	1	2
<p>Verify whether one of the paragraphs in this box is applicable to the situation in your organization.</p> <ul style="list-style-type: none"> ➤ If this is the case, your score for this question will be “0”. ➤ If this is not the case, proceed in next column. 	<p>Verify whether any of the statements in this box is applicable to the situation in your organization.</p> <ul style="list-style-type: none"> ➤ If this is the case, your score for this question will be at least “1”. ➤ Proceed to the next column, to verify whether your score is even better or to identify the areas where you could improve your environmental management system. 	<p>Verify whether your organization conforms with <i>all</i> the paragraphs in this box.</p> <ul style="list-style-type: none"> ➤ If this is the case, your score for this question will be “2”. Congratulations, you successfully implemented this aspect of the environmental management system. ➤ If this is not the case, your score remains “1”. You have identified an area where your environmental management system can be improved.
<p>Comments: Note your comments here on a) the adequacy and comprehensiveness of the management system elements currently in place and b) management system elements lacking or requiring improvement that the organization will require for ISO 14001 certification.</p>		<p>Score: _____</p>

Write your score in the space provided, and note any comments or observations in the appropriate space (e.g., any actions to be taken to improve situation or score.) Alternatively, a process of elimination can be used. In this case, begin with the third column and determine whether all or some of the situations described apply to your organization. If all statements apply, give your organization a “2”. If none, or only some, of the statements apply, move then to the middle column. If any of these statements apply to your organization, then assign a score of “1”. If none of these statements apply, then assign a score of “0”.

EVALUATION OF YOUR FINAL SCORE

This checklist contains a total of 31 questions in five different sections, corresponding to the five guiding principles listed in the ISO 14004 standard. A perfect score of “62” (i.e., every question received a score of 2) would, if responded to thoroughly and honestly, indicate that the organization has all of the requisite EMS elements and procedures called for in the draft standard, sufficiently implemented to adhere to the standard.

A score of “0” would likely seldom, if ever, occur, since even the most rudimentary elements of mere legal compliance would normally oblige the use of a minimum of management practices. It is important to bear in mind that how well an organization implements the standard’s requirements is not the level of performance achieved using the standard, but the completeness and adequacy of the procedures and systems established to achieve that performance. Thus, for example, the mere fact that all employees are currently aware of their environmental responsibilities is insufficient under the terms of the standard. This could actually be a “chance” situation in the absence of defined and documented procedures to ensure that all employees (current and future) are made aware of these responsibilities.

For ease of interpreting scores, we have broken down the standard into its principle elements and have established a rating system based on three ranges of possible score for each, as follows.

Principle 1: Commitment and Policy

- | | |
|-------------|--|
| Score 0-5 | The organization either has no environmental policy, or its policy lacks most of the key elements, such as a commitment to continual improvement, required to fulfill the terms of the standard. |
| Score 6-10 | The organization has an environmental policy that meets many, but not all, of the requirements established under the standard. |
| Score 11-14 | Top management has established and documented an environmental policy that meets most, if not all of the criteria laid down in the standard. This policy takes into account most, if not all, of the environmental aspects and is well communicated, both inside and outside of the organization. However, if the policy is not appropriate to the nature, scale and environmental impacts of the organization’s activities, products or services, subsequent development of the EMS might be compromised. |

Principle 2: Planning

- | | |
|------------|---|
| Score 0-3 | The organization has focused little, if any effort on identifying its relevant environmental aspects and setting achievable objectives and targets; its environmental management program is insufficient to implement the environmental policy. |
| Score 3-6 | The organization has made progress in identifying most of its environmental aspects as well as the legal requirement to which it is subject, and might have established some objectives and targets which its environmental management program is designed to achieve, but much progress is still required. |
| Score 6-10 | Most, if not all, of the required procedures exist to identify how its activities, products and/or services impact the environment, and to keep up to date on changing regulations. Measurable targets and objectives have been set for most, if not all appropriate levels of the organization; an action program exists to ensure their attainment. On the other hand, if clear, documented targets and objectives have not been established on the basis of a fairly complete identification of all environmental aspects of the business, its environmental action program may well overlook certain key issues of concern. |

Principle 3: Implementation and Operation

- Score 1-8 Existing procedures do not fully take into account all environmental aspects at all levels and activities of the organization. Specific responsibilities and accountabilities might not be sufficiently communicated throughout the organization. Sufficient resources and technical competencies might yet be lacking.
- Score 9-18 Many procedures to achieve the policy's objectives and targets exist, but they might not include emergency situations. Responsibilities and accountabilities for their implementation have been assigned for the most part, and much, but not all of the needed resources requirements have been made available.
- Score 19-26 Most, if not all, areas of responsibility have been assigned, and resources allocated. Operating and other procedures have been developed, documented and communicated. Personnel are trained in their use and in complying with their environmental responsibilities. Document controls exist to ensure that systems are kept up to date. But, if operations and activities associated with or causing significant environmental aspects have not been identified (see Principle 2) or if documented procedures have not been established to ensure that they are performed in accordance with the environmental policy, implementation will not meet the terms of this standard

Principle 4: Checking and Corrective Action

- Score 1-3 Few, if any procedures have been developed or implemented for checking the performance of the EMS and its component elements; and thus, areas of non-conformance cannot be adequately identified; as a result, corrective or preventive measures cannot be effectively taken.
- Score 4-7 The organization has established many of the measurement and evaluation procedures required by the standard, and might have some of the key elements for dealing with situations of non-conformity. Some important records are maintained, and EMS audits might be carried out. However, much improvement is still warranted to conform to the standard.
- Score 8-10 The organization has implemented the majority of procedures and programs described in the standard to effectively and regularly monitor and measure the applicable characteristics of operations and activities, as well as to detect and correct areas of non-conformity. Adequate procedures exist for management of most, if not all, appropriate records, and a regular EMS audit program has been established. Even with a high score, however, the overall performance in meeting these criteria will be placed in serious doubt if the organization does not have a program and documented procedures for periodic audits of the EMS, which are adequate to ensure that conformity with policies, objectives and targets is indeed systematic, and not accidental

Principle 5: Management Review

Since there is only one question in this section, your score for the question posed will give an adequate indication of your score for the section. In any event, the organization cannot substantively fulfill this requirement if it does not periodically review the basic assumptions upon which its EMS is based.

Overall Score

A high score in any section is not necessarily a sign that the requirement is essentially met, if the core key criteria in that section is not met. Moreover, because all principles and elements are closely interlinked, a low score in any given section could place in doubt the higher scores achieved elsewhere. On the other hand, scoring at least 1 or 2 in each question should give the organization the confidence that its management approaches are compatible with the EMS as described in ISO 14001.

4.2 Environmental Policy

Principle 1: Commitment and Policy

“The environmental policy is the driver for implementing and improving the organization’s environmental management system.”

4.2 HAS TOP MANAGEMENT DEFINED THE ORGANIZATION’S ENVIRONMENTAL POLICY?

0	1	2
<p>Top management has not defined an environmental policy yet.</p>	<p>An environmental policy was issued, but it is not clear that it was defined and endorsed by top management.</p> <p>The environmental policy has not been defined within the context of the environmental policy of the broader corporate body (if any) of which the organization is a part, and has not received the endorsement of that body (see Annex A to the Standard, A.4.2).</p>	<p>Top management has defined the organization’s environmental policy in a written document and made it public.</p> <p>The environmental policy has been defined and documented within the context of the environmental policy of the broader corporate body (e.g., the parent company or other overall organization, if any) and has the endorsement of that body (see Annex A to the Standard, A.4.2).</p>
<p>Comments:</p> <div style="border: 1px solid black; width: 100%; height: 150px; margin-top: 10px;"></div>		
<p>Score: _____</p>		

4.3 Planning

Principle 2: Planning

“An organization should formulate a plan to fulfill its environmental policy.”

4.3.1.A. Is there a procedure to identify the environmental aspects of your business over which you have control or influence and to determine actual or potential significant impacts on the environment?

0	1	2
<p>There is no procedure to identify the environmental aspects of the business.</p>	<p>There is a procedure to identify the environmental aspects of the activities, products or services over which the organization has control or influence, but not all three.</p> <p>Existing procedures are insufficient to determine which environmental aspects have or can have a significant impact on the environment (Note: information already developed for regulatory or other purposes may be used in this process).</p> <p>If the organization does not have an existing environmental management system, it has not conducted a review to establish its current position with regard to the environment (<i>see Annex A to the Standard, A.4.3.1</i>).</p> <p>The organization does not keep information regarding its environmental aspects up to date.</p>	<p>There is a procedure to identify the significant environmental aspects of the business, including activities, products and services and it has been determined which of the environmental aspects of the business have or can have a significant impact on the environment.</p> <p>If the organization did not have an existing environmental management system, its first step in this process was to establish its current position with regard to the environment by means of a review (<i>see Annex A to the Standard, A.4.3.1</i>).</p> <p>The process for identifying significant environmental aspects takes into account the cost and time of undertaking the analysis and the availability of reliable data (<i>see Annex A to the Standard, A.4.3.1</i>).</p> <p>The analysis of significant environmental aspects of the organization takes into account the inputs and outputs associated with its current and relevant past activities, products and services (<i>see Annex A to the Standard, A.4.3.1</i>).</p> <p>The information is kept up to date.</p>
<p>Comments:</p>		
<p>Score: _____</p>		

4.3.3 HAVE ENVIRONMENTAL OBJECTIVES AND TARGETS BEEN ESTABLISHED AND DOCUMENTED AND ARE THERE PROCEDURES FOR MAINTAINING THESE DOCUMENTS?

0	1	2
<p>No environmental objectives and targets have been established by the organization. No environmental policy has been established.</p>	<p>Environmental objectives and targets have been established by the organization, but not documented.</p> <p>The environmental objectives and targets were not established with consideration of legal or other requirements, significant environmental aspects, technological options, or interested parties.</p> <p>No procedure exists to ensure that these objectives and targets are reviewed and maintained regularly.</p> <p>Environmental objectives and targets have been established and documented but do not cover each and every relevant function and level within the organization.</p> <p>Targets and objectives include consideration of end-of-pipe technological options and compliance with legal and other requirements, but do not reflect a commitment to pollution prevention.</p> <p>Targets and objectives take into consideration the organizations' financial, operational and business requirements but not the views of interested parties.</p>	<p>Environmental objectives and targets have been developed at each relevant function and level within the organization.</p> <p>The objectives are specific and the targets are measurable wherever practicable.</p> <p>The objectives and targets are consistent with the environmental policy and reflect a commitment to pollution prevention.</p> <p>The objectives and targets are in alignment with the significant environmental impacts associated with the organization's activities, products or services.</p> <p>The organization has taken into consideration, when establishing (and reviewing) its objectives, legal and other requirements, technological options, financial, operational and business requirements, as well as the views of interested parties.</p> <p>There is a procedure to ensure the objectives and targets are reviewed and updated regularly.</p>
<p>Comments:</p> <p style="text-align: right;">Score: _____</p>		

4.3.4 HAS AN ENVIRONMENTAL MANAGEMENT PROGRAM FOR ACHIEVING THE OBJECTIVES AND TARGETS BEEN ESTABLISHED AND MAINTAINED?

0	1	2
<p>No environmental management program has been developed.</p>	<p>In view of achieving the environmental objectives and targets, an environmental management program has been developed, including management procedures for some relevant functions and levels of the organization, but not for all.</p> <p>The environmental management program does not stipulate the means or timeframe for achieving its objectives and targets.</p> <p>A program was established, but has not kept pace with new developments or products in the organization.</p>	<p>The organization has established an environmental management program for achieving its objectives and targets, which describes how the organization's targets will be achieved (<i>see Annex A to the Standard, A.4.3.4</i>).</p> <p>The program identifies the personnel responsible for implementing the environmental policy and who is responsible for achieving the objectives and targets at each relevant function and level within the organization.</p> <p>The program includes the means available (e.g. financial, physical or human resources) by which the organization shall achieve its objectives and targets.</p> <p>The program has a clear timeframe which identifies what will be done or achieved by when and how.</p> <p>The environmental management program is amended where relevant to ensure that environmental management will be applied to new developments and new or modified activities, products or services.</p> <p>The environmental management program includes environmental reviews for new activities (<i>see Annex A to the Standard, A.4.3.4</i>).</p>
<p>Comments:</p> <p style="text-align: right;">Score: _____</p>		

4.4 Implementation and Operation

Principle 3: Implementation

“For effective implementation an organization should develop the capabilities and support mechanisms necessary to achieve its environmental policy, objectives and targets.”

4.4.1.A HAVE ROLES, RESPONSIBILITY AND AUTHORITIES BEEN DEFINED, DOCUMENTED AND COMMUNICATED ?

0	1	2
<p>Top management have not appointed (a) specific environmental management representative(s).</p>	<p>Top management have appointed (a) specific environmental management representative(s) but the roles, responsibilities and authority of this individual (these individuals) have not been defined or documented.</p> <p>Roles, responsibilities, and authorities of other operational management and staff functions for implementing the various elements of the environmental management system have been defined but have not been documented.</p> <p>The roles, responsibilities, and authorities of other operational management and staff functions have not been communicated to personnel.</p>	<p>Top management have appointed (a) specific environmental management representative(s).</p> <p>The environmental management representative(s) has a defined role, responsibility and authority for ensuring that the requirements of the environmental management system are established, implemented and maintained in accordance with the ISO 14001 standard and for reporting performance of the EMS to top management.</p> <p>Roles, responsibilities, and authorities of other operational management and staff functions for implementing the various elements of the environmental management system have been defined, documented and communicated to personnel in order to facilitate management.</p> <p>The environmental management representative reports on the performance of the environmental management system to top management. These reports are used by top management to review the environmental management system and the basis for its improvement.</p>
<p>Comments:</p>		
<p>Score: _____</p>		

4.4.2.B HAVE PROCEDURES BEEN ESTABLISHED TO MAKE EMPLOYEES OR MEMBERS AT EACH RELEVANT FUNCTION AND LEVEL AWARE OF ENVIRONMENTAL ISSUES ?

0	1	2
<p>No procedures have been established to make personnel at each relevant function and level aware of environmental issues.</p>	<p>Procedures have not been established to ensure all personnel at each relevant function and level are aware of environmental issues.</p> <p>Only the personnel in certain departments have been made aware of environmental issues.</p> <p>Only the personnel in certain departments are made aware of the actual or potential significant environmental impacts of their work activities and the environmental benefits of improved personal performance.</p> <p>There is an overall awareness of environmental issues; however, not all personnel are made aware of the potential consequences of departure from specified operating procedures.</p> <p>Relevant training is provided, but no procedure exists for ensuring that all new employees receive appropriate training and awareness.</p>	<p>Procedures exist to ensure that all relevant personnel receive training to increase awareness of the importance of conformance with the requirements of the environmental management system.</p> <p>Procedures exist to ensure that all employees are made aware of the actual or potential significant environmental impacts of their work activities and the environmental benefits of improved personal performance.</p> <p>All employees are made aware of their roles and responsibilities in achieving conformance with the environmental policy and procedures and with the requirements of the environmental management system, including emergency preparedness and response requirements.</p> <p>All employees are made aware of the potential consequences of departure from specified operating procedures.</p>
<p>Comments:</p> <p style="text-align: right;">Score: _____</p>		

4.4.2.C HAS IT BEEN ENSURED THAT PERSONNEL PERFORMING TASKS WHICH CAN CAUSE SIGNIFICANT ENVIRONMENTAL IMPACTS ARE COMPETENT?

0	1	2
<p>Appropriate educational, training or experience requirements have not been identified.</p>	<p>Management has determined the level of experience, competence and training necessary to ensure the capability of personnel, especially those carrying out specialized environmental management functions.</p> <p>Not all personnel performing the relevant tasks meet the minimum educational/training or experience requirements identified by management.</p>	<p>Management has determined the level of experience, competence and training necessary to ensure the capability of personnel, especially those carrying out specialized environmental management functions.</p> <p>It has been ensured that personnel performing tasks which may cause significant environmental impacts have the required competence.</p> <p>The level of required competence of such personnel has been determined on the basis of appropriate education, training and/or experience.</p>
<p>Comments:</p> <div style="text-align: right; margin-top: 100px;"> Score: _____ </div>		

4.5.1.B ARE THERE ESTABLISHED DOCUMENTED PROCEDURES FOR THE PERIODIC EVALUATION OF COMPLIANCE WITH RELEVANT ENVIRONMENTAL LEGISLATION AND REGULATIONS?

0	1	2
<p>No procedures exist for evaluating regulatory compliance.</p>	<p>Some procedures exist for evaluating compliance with relevant regulatory requirements but they either:</p> <ul style="list-style-type: none"> • do not include a detailed evaluation of all requirements or • do not cover all aspects of operations, products and services. <p>Such evaluations are not conducted regularly or periodically.</p>	<p>Specific procedures have been established and are documented to evaluate regulatory compliance of all activities, products or services.</p> <p>Procedures include measures to identify and document the relevant regulatory requirements with which such activities, products or services must comply.</p> <p>Procedures establish the periodicity with which such evaluations must be conducted. Results of such evaluations are documented and reported to management.</p>
<p>Comments:</p> <div style="border: 1px solid black; width: 100%; height: 100%;"></div>		
<p>Score: _____</p>		

4.5.4 DOES THE ORGANIZATION HAVE (A) PROGRAM(S) AND PROCEDURES FOR PERIODIC ENVIRONMENTAL MANAGEMENT SYSTEM AUDITS ?

0	1	2
<p>No audit procedures have been established.</p> <p>Audit procedures do not include an evaluation of the environmental management system (e.g., audits concentrate only on compliance with regulatory requirements).</p>	<p>A program and procedures for periodic environmental management system audits have been established.</p> <p>The audits are aimed at determining whether or not the environmental management system has been properly implemented and maintained and whether the environmental management system conforms to planned arrangements. However, the periodicity of these audits or the audit program overall does not reflect the related potential environmental importance of the activity concerned, or does not take into account previous audits (if any).</p> <p>Audit procedures are not fully comprehensive (e.g., they do not cover all of the following: scope, frequency and methodologies, responsibilities and requirements for conducting audits and reporting results).</p> <p>The procedures do not ensure that information on the results of the audits is provided to management.</p>	<p>A program and procedures for periodic environmental management audits have been established.</p> <p>The audit program is aimed at determining whether or not the environmental management system conforms to planned arrangements for environmental management and whether or not the environmental management system has been properly implemented and maintained.</p> <p>The procedures ensure that information on the results of the audits is provided to management.</p> <p>The audit program, including frequency audits, is based on the environmental importance of the activity concerned and the results of previous audits.</p> <p>The audit procedures cover the scope of the audit, frequency and methodologies, required auditor competencies as well as the responsibilities associated with managing and conducting audits, and requirements for conducting audits and reporting results</p>
<p>Comments:</p> <p style="text-align: right;">Score: _____</p>		

4.6 Management Review

Principle 5: Management Review

“An organization should review and continually improve its environmental management system, with the objective of improving its overall environmental performance.”

4.6 HAS TOP MANAGEMENT REVIEWED THE ENVIRONMENTAL MANAGEMENT SYSTEM?

0	1	2
<p>No arrangements exist to ensure that top management reviews the environmental management system to ensure continuing suitability, adequacy and effectiveness.</p>	<p>Top management has plans and arrangements to review the environmental management system to ensure continuing suitability, adequacy and effectiveness.</p> <p>Such reviews are not documented.</p> <p>There is no schedule for periodically reviewing the environmental management system.</p> <p>The management review process is not adequate to ensure that the necessary information is collected to allow it to carry out the evaluation.</p> <p>Management’s review addresses the elements necessary for Environmental Management System implementation and the procedures associated with its implementation, but does not address possible needs to change the policy or its objectives and targets.</p>	<p>Top management has reviewed the environmental management system to ensure continuing suitability, adequacy and effectiveness.</p> <p>As part of the review process, the necessary information is identified and collected to allow management to carry out this evaluation.</p> <p>Top management has determined the intervals at which it will review the environmental management system.</p> <p>The management review addresses changing circumstances that might necessitate the possible needs for changes to policy, objectives and other elements of the environmental management system, in the light of environmental management system audit results, changing circumstances and the commitment to continual improvement.</p> <p>Management’s review is documented.</p> <p>The review of the policy, objectives and procedures is carried out by the level of management that defined them (see Annex A to the Standard, A.6)</p>
<p>Comments:</p> <p style="text-align: right;">Score: _____</p>		

ANNEX I: FURTHER INFORMATION

The following information is offered as further guidance for the development, implementation and checking of an organization's environmental management system. This information is derived primarily from the annex to ISO/DIS 14001 and from ISO/DIS 14004 - *Environmental management systems - General guidelines on principles, systems and supporting techniques*. Certain examples and hypothetical cases have been provided to illustrate the practical applications or implications of the principles elaborated in ISO/DIS 14004. These have been derived from various sources, including several commercially available information and training programs on EMS development and implementation, such as the "Environmental Management Systems Training Program" (*Opleiding in Milieubeheersystemen*) of the Federation of Belgian Enterprises and the "Environmental Management Systems Training Resource Kit" sponsored by UNEP, the ICC and FIDIC, both of which are based extensively on ISO/DIS 14001. Readers should bear in mind that the following information goes beyond a strict interpretation of the ISO standard and is intended to provide supplemental information and ideas on how an organization might satisfy the standard's requirements. It is not, and is not intended to be, an interpretation of the standard itself, and does not have the endorsement of ISO.

PRINCIPLE 1: COMMITMENT AND POLICY

The environmental policy acts as the driving force for implementing and improving the organization's environmental management system so that it can maintain and potentially improve its environmental performance. Environmental policy is defined as a "statement by the organization of its intentions and principles in relation to its overall environmental performance which provides a framework for action and for the setting of its environmental objectives and targets." The environmental policy can have far-reaching business implications for the future direction of the enterprise. It should be integrated into the organization's overall business strategy and should also be compatible with other organizational policies such as quality, service, product stewardship or occupational health and safety. Once an environmental policy has been developed and published, the organization's environmental performance will be judged against it.

To ensure success, an early step in developing or improving an environmental management system is obtaining commitment from the *top* management of the organization to improve the environmental management of its activities, products or services. The ongoing commitment and leadership of the top management are crucial. The responsibility for developing the environmental policy should therefore rest with those at the very highest levels of the organization (e.g. Board of Directors) and it should be signed by the Chairman, Chief Executive or similar senior most manager as evidence of commitment. Top management may consist of an individual or group of individuals with executive responsibility for the organization.

Other levels of management will then be responsible for implementing the policy, but continuing support from the top of the organization will be needed during the further development of the environmental management system and for the organizational changes which will result from its implementation. To allow this, senior management should appoint someone from management to oversee the development and to implement the environmental policy. This person from management should also be provided the authority and means to do so.

An environmental policy establishes an overall sense of direction and sets the principles of action for an organization. It sets the overarching goal as to the level of overall environmental responsibility and performance required of the organization, against which all subsequent actions will be judged. It should reflect the organization's mission, vision, core values and guiding principles. It should also be based upon a full appreciation of the organization's environmental impacts and responsibilities.

Formulating the policy

The organization's management is responsible for providing input to the formulation and modification of the policy and for implementing the policy. Guiding principles such as the "Rio Declaration on Environment and Development" or the "Business Charter for Sustainable Development" can assist the organization in developing its

policy. If the organization is part of any broader corporate body, top management should define and document its environmental policy within the context of the environmental policy of that broader corporate body of which it is a part and with the endorsement of that body. Other important sources of information for input into the environmental policy development process include the following:

- The organization's values and beliefs, such as (desired) relationship with its employees, the local community and the general public.
- The organization's business strategy and strategic plan: elements relating to the organization's (environmental) direction, opportunities and risks, medium and long term planning including internal and external limits and opportunities in capabilities and resources.
- Any existing statement on environmental aspects: mission statements, old policies, previous statements of commitment in internal/external reports.
- Other policies in existence such as occupational health and safety, or quality.
- The views of stakeholders (shareholders, employees) and other interested parties.
- Policy goals based on the initial environmental review.
- Legislation and regulations.
- Clear definition of the geographical and organizational scope of the policy: which facilities, departments, activities, services or products are to be covered by the environmental policy.
- General statements of environmental principles; e.g. from government, public bodies, industry associations, which are relevant to the organization.
- Examples of environmental policy statements from similar organizations.

The issues addressed in the policy depend on the nature of the organization. All activities, products or services can cause impacts on the environment. The environmental policy should recognize this. The organization's environmental policy cannot fully and adequately reflect the nature, scale and environmental impacts of its operations, products and/or services unless a conscious effort is made to assess these and their potential impacts on and/or implications for the environment. Therefore, some form of initial environmental review is an absolute necessity if the resulting policy will truly reflect the organization's sense of environmental responsibility (*See Section 4.3.1 Environmental Aspects*).

Taking into account the findings of such an initial review, the values and beliefs of the organization, its relationship with staff, neighbors, shareholders, customers and suppliers, regulators and other persons with an interest in how well the organization manages its environmental affairs, the organization will prepare and publicize its environmental policy, which will offer the broad environmental goals the organization intends to, or hopes to achieve.

An environmental management system is a dynamic tool. The environmental policy should direct the environmental management system to achieve improvements in overall environmental performance. The organization should begin where there is obvious benefit, for example, by focusing on regulatory compliance, by limiting sources of liability or by making more efficient use of materials.

As the organization grows in experience, and its environmental management system starts to take shape, procedures, programs and technologies can be put in place to further improve environmental performance. Then as the environmental management system matures, environmental considerations can be integrated into all business decisions.

The environmental policy forms the basis upon which the organization sets its objectives and targets. It should provide guidance. In ISO 14001, it is required that the environmental policy should explicitly include a commitment to comply with environmental legislation and regulations, and to other requirements to which the organization subscribes. This is a clear guidance to all persons involved in the organization that its activities should be carried out in compliance with environmental legislation and regulation. To have the greatest effect, it might be useful to identify, in the policy, the other requirements to which the organization subscribes, such as the

CMA or CEFIC “Responsible Care” initiative, or the ICC Business Charter for Sustainable Development, for example.

For public authorities in many countries, this clear commitment to compliance with environmental legislation and regulations in the frame of a certified environmental management system is an indication that the organization is taking environmental issues seriously. This will allow the public authorities to focus their attention on those companies who do not seem to take environmental issues seriously.

The policy forms the basis upon which the organization sets its objectives and targets. These will, in turn, be achieved through the implementation of the environmental management program. The objectives and targets should, like the policy, take account of the nature, scale and characteristics of the activities, products and services of the organization. Useful inputs for determining these objectives and targets might include a consideration of the current state and evolution of environmental legislation, private industry initiatives, the views of other interested parties (including perhaps even environmentalists and community leaders), as well as financial and other business considerations. Some organizations may start small, and initially go after objectives that bring immediate rewards at low cost (i.e., “low-hanging fruit”). Eventually, targets and objectives might include longer-term business or commercial opportunities.

The policy should be sufficiently clear to be capable of being understood by internal and external interested parties and should be periodically reviewed and revised to reflect changing conditions and information. Its area of application should be clearly identifiable.

In addition to compliance with environmental regulations, the policy can state commitments to:

- minimize any significant adverse environmental impacts of new developments through the use of integrated environmental management procedures and planning;
- development of environmental performance evaluation procedures and associated indicators;
- embody life cycle thinking;
- design products in such a way as to minimize their environmental impacts in production, use and disposal;
- prevent pollution, reduce waste and the consumption of resources (materials, fuel and energy), and commit to recovery and recycling, as opposed to disposal where feasible;
- education and training;
- sharing environmental experience;
- involvement of and communication with interested parties;
- work towards sustainable development; and
- encourage responsible environmental behavior by suppliers and contractors.

Publishing and distributing

It is important to ensure that the environmental policy becomes widely known and understood throughout the organization. The publishing and distribution of the environmental policy can provide an ideal opportunity for management to outline the underlying reasons for developing an environmental management system (for example in terms of business security, opportunities and risk reduction) and to explain to the staff how it will be implemented within the enterprise. This will help to encourage, at all levels, full commitment to achieving the environmental goals.

Internal presentation of the policy should precede the formal external publication. This will give staff the opportunity to familiarize themselves with the policy and to have questions answered. The publication of the policy will inevitably lead to questions from the staff such as “how will this affect my work?”. The opportunity to begin an ongoing dialogue with staff concerning environmental aspects should not be missed. Input and suggestions from staff towards meeting the policy objectives can provide the basis for motivating staff and encouraging their cooperation during the implementation stage of the environmental management system.

The publishing of the environmental policy is often the first public step into the environmental arena. Moreover, it can be an effective tool within the organization itself. It provides an ideal opportunity to explain to all of the staff the environmental direction of the organization and the reasons why this is necessary, to motivate them and encourage their involvement and cooperation.

As it is written for a wide audience, the style of the environmental policy should be concise. The information should be clearly formatted. It should be written in plain language that is accessible to and can be understood by all interested parties. The use of jargon, both environmental and technical, should be avoided.

There are many ways to publicize the environmental policy, largely depending on the size and resources of the enterprise. A brochure to give to interested parties, including the environmental authorities, members of the local community, etc. should be the minimum. Many companies also print their environmental policy in their annual (environmental) report, as well as post it prominently at the entrance to their facilities or offices. Of course, it is also possible to pay for commercial advertising if this is seen of benefit to the organization.

Review of the environmental policy

In most organizations, the environmental policy is a relatively long-lived document, remaining unchanged for two or three years or even longer. However, it is necessary to ensure the continuing suitability of the policy on a regular basis. Changes might be necessary as a result of, for example:

- changing market situation;
- changes in processes, products, etc.;
- a merger with or acquisition of another organization; and/or
- the views of public and stakeholders.

It is important to include the review of the policy in the overall management review of the environmental management system (*See Section 4.5 Environmental management system review*) and to revise and adjust it as necessary.

PRINCIPLE 2: PLANNING

Identification of environmental aspects and impacts

An organization's policy, objectives and targets should be based on knowledge about the environmental aspects and significant environmental impacts associated with its activities, products or services. This can ensure that the significant environmental impacts associated with these aspects are taken into account in setting the environmental objectives. The relation between environmental aspects and impacts is one of cause and effect. An environmental aspect refers to an element of an organization's activity, which can have a beneficial or adverse effect on the environment. For example, it could involve a discharge, an emission, consumption or reuse of a material, or noise. An impact refers to the change which takes place in the environment as a result of the aspect. Examples of impacts might include contamination of water or depletion of a natural resource.

The identification of environmental aspects and the evaluation of environmental impacts is a process that can be dealt with in four steps:

Step 1: Select an activity or process. (The selected activity or process should be large enough for meaningful examination and small enough to be sufficiently understood.)

Step 2: Identify environmental aspects of the activity product or service. (Identify as many environmental aspects as possible associated with the selected activity or process.)

Step 3: Identify environmental impacts. (Identify as many actual and potential, positive and negative, environmental impacts as possible associated with each identified aspect.)

Examples from the three steps are:

Activity, product or service	Environmental Aspect	Environmental Impact
handling of hazardous materials	potential for accidental spillage	contamination of soil or water
product	reformulation of the product to reduce its volume	conservation of natural resources
vehicle maintenance	exhaust emissions	reduction of air pollution

Step 4: Evaluate significance of impact. (The significance of each of the identified environmental impacts can be different for each organization. Quantification can aid judgment. Evaluation can be facilitated by considering environmental concerns (the scale of the impact, the severity of the impact, probability of occurrence, duration of impact) and business concerns (potential regulatory and legal exposure, difficulty of mitigating the impact, costs of mitigating the impact, effect of change on other activities and processes, concerns of interested parties, effects on public image of the organization).)

This section is intended to provide a process for an organization to identify significant environmental aspects that should be addressed as a priority by the organization's environmental management system. This process should take into account the cost and time of undertaking the analysis and the availability of reliable data. Information already developed for regulatory or other purposes may be used in this process. Organizations may also take into account the degree of practical control they may have over the environmental aspects being considered. Organizations determine what their environmental aspects are taking into account the inputs and outputs associated with their current and relevant past activities, products and services.

The identification of the environmental aspects is an ongoing process that determines the past, current and potential impact (positive or negative) of an organization's activities on the environment. This process also includes the identification of the potential regulatory, legal and business exposure affecting the organization. It can also include identification of health and safety impacts, and environmental risk assessment.

Initial environmental review

An organization with no existing environmental management system should, as a first step, establish its current position with regard to environment by means of a review. The aim should be to consider all environmental aspects of the organization as a basis for establishing the environmental management system. Those organizations with operating environmental management systems do not have to undertake such a review.

The review should cover four key areas:

- a) legislative and regulatory requirements;
- b) an identification of significant environmental aspects;
- c) an examination of all existing environmental management practices and procedures;
- d) an evaluation of feedback from the investigation of previous incidents.

In all cases, consideration should be given to normal and abnormal operations within the organization, and to potential emergency conditions.

A suitable approach to the review may include checklists, interviews, direct inspection and measurement, results of previous audits or other reviews depending on the nature of the activities.

The process to identify the significant environmental aspects associated with the activities at operating units should consider, where relevant:

- a) emissions to air;
- b) releases to water;
- c) waste management;
- d) contamination of land;
- e) impact on communities;
- f) use of raw materials and natural resources;
- g) other local environmental issues.

The process should consider normal operating conditions, shut down and start up conditions, as well as realistic potential significant impacts associated with reasonably foreseeable or emergency situations.

The process is intended to identify significant environmental aspects associated with activities, products or services, and is not intended to require a detailed life cycle assessment. Organizations do not have to evaluate each product, component or raw material input. They may select categories of activities, products or services to identify those aspects that are likely to have a significant impact.

The control and influence over the environmental aspects of products vary significantly, depending on the market situation of the organization. A contractor or supplier to the organization may have comparatively little control, while the organization responsible for product design can alter the aspects significantly by changing for example a single material input. While recognizing that organizations may have limited control over the use and disposal of their products, they should consider, where practical, proper handling and disposal mechanisms. This provision is not intended to change or increase an organization's legal obligations.

Keeping track of legal and other requirements

The organization should establish and maintain procedures to identify, have access to and understand all legal and other requirements to which it subscribes, directly attributable to the environmental aspects of its activities, products or services.

To maintain regulatory compliance, the organization should identify and understand regulatory requirements applicable to its activities, products or services. Regulations can exist in several forms:

- those specific to the activity (e.g., maximum emission or discharge limitations);
- those specific to the organization's products or services (e.g. for a packaging producer; restrictions on the use of certain chemicals or requirements with regard to discarded packaging take-back);
- those specific to the organization's industry;
- general environmental laws; and
- authorizations, licenses and permits.

Several sources can be used to identify environmental regulations and ongoing changes, including all levels of government; industry associations or groups; commercial databases; and professional services.

To facilitate keeping track of all legal requirements, an organization can establish and maintain a profile or compilation of all laws and regulations pertaining to its activities, products or services. Mention in the documentation the date of the latest amendment to the law or regulation you are aware of.

Examples of other requirements to which the organization may subscribe are:

- industry codes of practice (e.g., "Responsible Care", etc.);
- standards (ISO 14001, EMAS, ISO 9000,...);
- agreements with public authorities (e.g. "environmental covenants", 33/50, etc.);
- eco-label requirements for products (e.g., "blauer engel", "marque retour"; etc.); and
- non-regulatory guidelines (e.g., ICC Business Charter for Sustainable Development, etc.).

Internal priorities and criteria should be developed and implemented where external regulatory and other requirements do not meet the needs of the organization or are non-existent. Internal performance criteria, together with external standards, assist the organization in developing its own objectives and targets. Examples of areas where an organization can have internal performance criteria might include:

- | | |
|---|--|
| • management systems; | • environmental measurement and improvement; |
| • employee responsibilities; | • process risk reduction; |
| • acquisition, property management and divestiture; | • prevention of pollution and resource conservation; |
| • suppliers; | • capital projects; |
| • contractors; | • process change; |
| • product stewardship; | • hazardous material management/substitution; |
| • environmental communications; | • waste management; |
| • regulatory relationships; | • water management (e.g., waste, storm, ground); |
| • environmental incident response and preparedness; | • air quality management; |
| • environmental awareness and training; | • energy management; and transportation. |

Setting objectives and targets

The environmental policy is not an end in itself. The environmental policy has to be used together with the results of the environmental review, to develop detailed objectives and targets. Objectives should be established to meet the organization's environmental policy. These objectives are the overall goals for environmental performance identified in the environmental policy. When establishing its objectives an organization should also take into account the relevant findings from environmental reviews, and the identified environmental aspects and associated environmental impacts. In reviewing and analyzing this information, one has to identify priorities (e.g. a situation of non-compliance which puts the whole operation at risk has to be addressed first). Identify the issues of vital

importance, high priority, medium priority, and low priority. In setting objectives first address the issues with the highest priority.

Environmental targets can then be set to achieve these objectives within a specified time-frame. The targets should be specific and measurable.

When the objectives and targets are set, the organization should consider establishing measurable environmental performance indicators. These indicators can be used as the basis for an environmental performance evaluation system and can provide information on both the environmental management and the operational systems.

Objectives and targets can apply broadly across an organization or more narrowly to site-specific or individual activities. Appropriate levels of management should define the objectives and targets. Objectives and targets should be periodically reviewed and revised, and should take into consideration the views of interested parties.

When establishing the objectives and targets, the possibility of taking preventative measures have to be considered, as well as the legal and other requirements, the significant environmental aspects, the technological options, and the financial, operational and business requirements, and the views of interested parties. Taking into consideration the financial requirements of the organization does not imply that environmental cost accounting methodologies should be used.

When considering the technological options, one may consider the use of best available technology where economically viable, cost effective and judged appropriate.

Objectives can include commitments to:

- reduce waste and the depletion of resources;
- reduce or eliminate the release of pollutants into the environment;
- design products to minimize their environmental impact in production, use and disposal;
- control the environmental impact of raw material sourcing;
- minimize any significant adverse environmental impact of new developments; and
- promote environmental awareness among employees and the community.

Progress towards an objective can generally be measured using environmental performance indicators such as:

- quantity of raw material or energy used;
- quantity of emissions such as CO₂;
- waste produced per quantity of finished product;
- efficiency of material and energy use;
- number of environmental incidents/accidents;
- percentage of waste recycled;
- percentage recycled material used in packaging;
- number of vehicle kilometers per unit of production;
- specific pollutant quantities (e.g. NO_x, SO₂, CO, HC, Pb, CFCs);
- investment in environmental protection;
- number of prosecutions; and
- land area set aside for wildlife habitat.

An integrated example	
Policy	Commitment to regulatory compliance
Environmental review	Permit requirements with regard to air emissions are often violated, due to high fuel consumption in manufacturing
Prioritizing	Regulatory authorities threatened to stop the manufacturing if no action was taken - high priority
Objective 1	reduce energy required in manufacturing operations
>> Target	achieve 10% reduction of the previous year
>> Indicator	quantity of fuels per unit of production.

Environmental Action Program

The translation of the policy into action takes the form of an environmental action program. Within the general planning of activities, an organization should establish an environmental action program, that addresses all of its environmental objectives. To be most effective the environmental action planning should be integrated into the organization’s strategic plan. Environmental action programs should address schedules, resources and responsibilities for achieving the organization’s environmental objectives and targets.

Within the framework provided by the environmental planning, an environmental action program identifies specific actions in order of their priority to the organization. These actions may deal with individual processes, projects, products, services, sites or facilities within a site.

Environmental action programs help the organization to improve its environmental performance. They should be dynamic and revised regularly to reflect changes in organizational objectives and targets.

The creation and use of (a) program(s) is a key element to the successful implementation of an environmental management system. The program should describe how the organization’s targets will be achieved, including time-scales and personnel responsible for implementing the organization’s environmental policy. This program may be sub-divided to address specific elements of the organization’s operations. The program should include an environmental review for all new activities.

The program may include, where appropriate and practical, consideration of planning, design, production, marketing and disposal stages. This may be undertaken for both current and new activities, products or services. For products this may address design, materials, production, processes, use and ultimate disposal. For installations or significant modifications of processes this may address planning, design, construction, commissioning, operation and, at the appropriate time determined by the organization, decommissioning.

Underneath you will find a fictive example of an environmental action program of “Testbull Inc.”. It is divided into two parts. The first table gives an overview of the environmental action program of the organization as a whole. Each of the action items is further detailed in the department environmental action program.

1996 Environmental Action Program Testbull Inc.				
N°	What	Budget	Who	Time schedule
1.	Water treatment installation	US\$ 30,000	John Hooker Process Engineer	Dec. 1996
2.	Selective waste collection	US\$ 1,000	Alice Wonderland Environment Coord.	May 1996
3.	Worker environment awareness training	US\$ 2,000	Human Resources Department	Sept. - Dec. 1996
4.	...			

1996 Environmental Action Program Process Engineering Department Testbull Inc.				
N°	What	Budget	Who	Time schedule
1.	Water treatment installation	US\$ 30,000	John Hooker Process Engineer	Dec. 1996
1.1	Investigate various design possibilities	-	Chris	January
1.2	Obtain quotes for construction of selected installation	-	Sarah	February
1.3	Select construction company	-	Department Meeting	1 March
1.4	Supervise construction activities	-	Gilbert	March - June
1.5	Testing the installation	-	Patrick	July
1.6	Inauguration of installation	US\$ 1,000	Tom & Marketing Dept.	August
1.7	Recruiting installation guard	-	John & Human Resources Department	May
1.8	...			

PRINCIPLE 3: IMPLEMENTATION AND OPERATION

The successful implementation of an environmental management system calls for the commitment of all employees of the organization. Environmental responsibilities therefore should not be seen as confined to the environmental function, but may also include other areas of an organization, such as operational management or staff functions other than environmental.

Responsibilities and Accountabilities

The commitment of all employees to the successful implementation of an environmental management system should begin at the highest levels of management. Top management should establish the organization's environmental policy and ensure that the environmental management system is implemented. As part of this commitment, top management should designate (a) specific management representative(s) with defined responsibility and authority for implementing the environmental management system. In large or complex organizations there may be more than one designated representative. In small or medium sized enterprises, these responsibilities may be undertaken by one individual.

It is also important that the key environmental management system responsibilities are well defined and communicated to personnel. People should know whose job it is to do what. The organizational structure usually consists of four main elements: the organizational chart, job descriptions, clear reporting lines and procedures, and performance targets. The organizational chart visualizes the organizational structure, main responsibilities and reporting lines. Issues that could be considered in developing the organizational structure are:

- provision of resources;
- action to prevent non-compliance;
- identifying potential problems;
- recommending solutions to problems and verifying their implementation; and
- acting in emergency situations.

It is often recommended that the environmental management responsibilities should follow the operational hierarchy, so that it becomes part of the everyday management of running the enterprise. The environmental manager should be responsible, either directly or by managing others, for ensuring that the environmental management system is established, implemented and effective. Top management should ensure that an appropriate level of resources are provided to ensure that the environmental management system is implemented and maintained.

Training and Communications

To be successful, responsibilities should be supported by the necessary authority and training to enable the individuals to carry out their tasks effectively. An effective and on-going training program is necessary for all levels of the organization to ensure awareness of environmental issues. Training needs have to be assessed taking into account the job to be carried out, and the skills, education and experience of the individuals in charge. Training should instruct on the organization's environmental policy, objectives and action program. It should address the significant environmental impacts, actual or potential, and the environmental benefits of improved personal performance. Equally, it should highlight the potential consequences of departure from specified operating procedures. A successful training program is an interactive process that provides the participants with information, awareness, knowledge, understanding and motivation. This interactive process requires managers to respond to suggestions and initiatives raised pursuant to the training sessions. Even if the suggestions are not appropriate, they need to be treated seriously so that the initiative and impetus of the training is maintained. The benefits of training can be quickly lost if the employees feel that the training is carried out in a vacuum, and that

on the workforce managers are not interested in their attempts to apply new found knowledge and understanding. Complete records of all training provided and who participated in it, should be maintained.

To maintain a certain dynamic in the environmental management system, proper internal and external communication procedures are essential. Such a procedure may include a dialogue with interested parties and consideration of their relevant concerns. In some circumstances responses to interested parties' concerns may include relevant information about the environmental impacts associated with the organizations operations. These procedures should also address necessary communications with public authorities regarding emergency planning and other relevant issues.

Documentation

The environmental documentation may be integrated and shared with documentation of other systems implemented by the organization, e.g. quality control and safety procedures. It does not have to be in the form of a single manual.

Environmental records may include:

- a) organizational charts;
- b) internal standards and operational procedures;
- c) site emergency plans;
- d) information on applicable environmental laws and other requirements;
- e) complaint records;
- f) training records;
- g) product process information;
- h) product information;
- i) inspection, maintenance and calibration records;
- j) pertinent contractor and supplier information;
- k) incident reports;
- l) information on emergency preparedness and response;
- m) records on significant environmental impacts;
- n) audit results; and
- o) management reviews.

Proper account should be taken of confidential business information.

The procedures for identification, maintenance and disposition of records should focus on those records needed for the implementation and operation of the environmental management system, as well as those records needed to record the extent to which planned objectives and targets have been met.

The intent of the document control procedures is to ensure that organizations create and maintain documents in a manner sufficient to implement the environmental management system. However, the primary focus should be on the effective implementation of the environmental management system and on environmental performance, and *not* on a complex documentation control system.

Procedures

Carefully written procedures are the basis for implementing the environmental management system. Procedures should specify who is to carry out what tasks, give step-by-step instructions for how tasks are to be accomplished, and include directions for dealing with departures from the procedures. Setting and maintaining effective environmental procedures involves five stages: identifying environmental aspects, assessing potential environmental impacts, identifying risk control measures, preparing and maintaining procedures to maintain control; and ongoing audit and review of these procedures. The operating procedures and controls should include, where appropriate, consideration of accidental emissions to atmosphere; accidental discharges to water and land; and specific environment and ecosystem effects from accidental releases.

The emergency plans can include:

- emergency organization and responsibilities;
- a list of key personnel;
- details of emergency services (e.g. fire department, spill clean-up services);
- an internal and external communication plan;
- actions taken in the event of different types of emergencies;
- information on hazardous materials, including each material's potential impact on the environment, and measures to be taken in the event of accidental release; and
- training plans and testing for effectiveness.

PRINCIPLE 4: CHECKING AND CORRECTIVE ACTION

Measuring, monitoring and evaluating are key activities of an environmental management system, to ensure that the organization is performing in accordance with the environmental policy, objectives and action program.

In establishing and maintaining procedures for investigating and correcting non-conformance, the organization should include the following basic elements:

- a) identifying the cause of the non-conformance;
- b) identifying and implementing the necessary corrective action;
- c) implementing or modifying controls necessary to avoid repetition of the non-conformance; and
- d) recording any changes in written procedures resulting from corrective action.

Audits may be performed by personnel from within the organization or by external persons selected by the organization. In either case the persons conducting the audit should be in a position to do so impartially and objectively.

PRINCIPLE 5: MANAGEMENT REVIEW

The organization should review and continually improve its environment management system, to achieve overall improvement in environmental performance. At regular intervals management should carry out a review of the environmental management system to ensure its continuing suitability and effectiveness.

The scope of the review should be comprehensive, though not all elements of an environmental management system need to be reviewed at once and the review process may take place over a period of time.

Some issues to be considered in the review are:

- review of the environmental objectives and targets;
- audit findings;
- concerns amongst relevant interested parties; and
- evaluation of the effectiveness of the environmental management system;
- evaluation of the suitability of the environmental policy and the need for changes in the light of changing legislation, changing expectations and requirements of interested parties, changes in the products or activities of the organization, developments in technology, lessons learned from environmental incidents, market preferences, reporting and communication.

ANNEX II: RELATIONSHIP BETWEEN THE ICC BUSINESS CHARTER PRINCIPLES AND THE ELEMENTS FOUND IN ISO 14001

ICC Principles	ISO 14001
1. Corporate Priority	●
2. Integrated Management	●
3. Process of Improvement	●
4. Employees Education	●
5. Prior Assessment	
6. Products and Services	
7. Customer Advice	
8. Facilities and Operations	○
9. Research	
10. Precautionary Approach	○
11. Contractors and Suppliers	○
12. Emergency Preparedness	●
13. Transfer of Technology	
14. Contributing to the Common Effort	
15. Openness to Concerns	●
16. Compliance & Reporting	●

● ISO/DIS 14001 element equivalent to ICC Principle

○ ISO/DIS 14001 has minimal coverage

Blank Voluntary Initiative does not mention