ECO-CHECK

ISO 14001 – Setting Environmental Standards

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The International Organisation for Standardisation (ISO), a non-governmental organisation situated in Geneva, Switzerland established in 1947, comprises a worldwide federation of national standards bodies from each of 100 countries. The organisation aims to facilitate the international exchange of goods and services by establishing international standards and reconciling regulatory differences between countries. ISO has published over 9600 standards, most of these are product standards related to manufacturing and performance of specific products. There are also two series of management standards developed. These are:

- ISO 9000 series, which includes standards and guide-lines for quality assurance and management
- ISO 14000 series, which includes organisational evaluation standard and the standard for product, services and processes

The ISO 14000 series is a voluntary set of standards intended to encourage organizations to systematically address the environmental impacts of their activities. The goal is to establish a common approach to environmental management systems that is internationally recognized, leading to improved environmental protection and reducing barriers to international trade.

ISO 14000 is a management system standard, not a performance standard. It is intended to be applicable to firms of all shapes and sizes around the world. The standard does not require specific environmental goals. Instead, it provides a general framework for organizing the tasks necessary for effective environmental management.

The series of documents that encompass ISO 14000 includes components such as environmental management systems, environmental auditing, environmental labeling, and product life cycle assessment. The ISO 14001 standard, which lays out requirements for establishing an Environmental Management System (EMS), is the centerpiece of the series. In order to qualify for ISO certification, firms must meet the requirements laid out in the ISO 14001. All of the other standards in the ISO 14000 series provide supporting guidance.

Emergence of ISO 14000

The world's first standard for EMS – BS 7750 was developed and published by the British Standard Institute (BSI) in 1992. This standard was the model for the ISO 14000 series developed, which established the requirements for an EMS, and was finalised in 1996. BS 7750 was also the basis for the European Union's Eco-Management and Audit Scheme, known as EMAS.

ISO 14000 series focuses on two major areas in the evaluation of environmental management practice. One area focuses on organisational issues and the other on product, services and processes.

The standard for organisational evaluation includes:

- **Environmental Management Systems** (ISO 14001, ISO 14004)
- **Environmental Performance Evaluation** (ISO 14014, ISO 14015, ISO 14031)
- **Environmental Auditing** (ISO 14010, 14011, 14012, 14013, 14014)

The standard for product, services and processes includes:

- **Life Cycle assessment** (ISO 14040, 14041, 14042, 14043)
- **Environmental Labeling** (ISO 14020, 14021, 14022, 14023, 14024)
- **Environmental Aspects in product standards** (ISO 14060)

Environmental Management System (EMS)

ISO defines EMS as the part of overall management system that includes organisational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy. An EMS is the management structure and system that organisations can use to address the short and long-term impacts of their products, services, and processes on the environment.

As discussed earlier, EMS standards are process-related standards and not performance related standards. In other words, these standards do not tell organisations what environmental performance they must achieve besides environmental regulations compliance. Instead, these standards describe a system that will help an organisation to achieve its own objectives and targets. The assumption is that better environmental management will lead indirectly to a better performance.

ISO 14001 (EMS – Specification with guidance for use), is the only certifying EMS standard and 14004 (EMS - General guidelines on principles, systems and supporting techniques) is the guidance for the implementation of ISO 14001.

Which organisations can go for ISO 14001 implementation?

ISO defines organisations as company, corporation, firm, enterprise, authority or institution, or part or combination thereof. Whether incorporated or not, public or private, it has its own function and administration. In other words, this means the organisation can be either involved in the process, service, administration or combination thereof. The elements of ISO 14001 are flexible by design to accommodate a wide range of organizational types and sizes (small, medium and large scale ranging in size from a couple of dozen employees to many thousands of employees).

Many facilities have multiple operating units at one location. For example, it is not uncommon to have a research and development (R&D) office at a production facility. The production facility may want to achieve ISO 14001 conformance, but not the R&D offices. As long as an auditor can clearly see the separation of these two activities, both physically and administratively, there should be little cause for concern.

The example above can be used to illustrate another point. If a large manufacturing facility had an R&D office on-site, there might be two distinct functional units that share physical resources but are separate cost centers. In some cases, units will actually pay each other for office space, utilities and janitorial service although they are part of the same corporation. In this case, separation for purposes of ISO 14001 program development and implementation is not difficult. Activities should be separate enough, however, to be clear to an outsider. If R&D engineers

are constantly venturing out onto the production line and making changes in practices and procedures, it may appear to an auditor that they are a portion of the operational group for the facility. Separation of functional groups might be harder to argue.

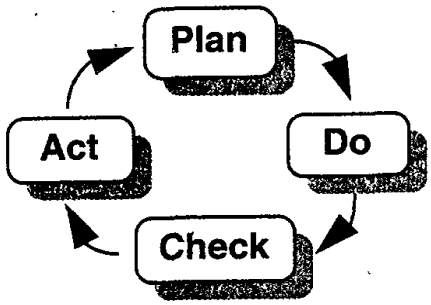
An example of separation that may NOT be acceptable is separation of the purchasing function from the rest of an operation. Since purchasing is tied at almost every management level in an operation, this would seem unreasonable to most auditors, and could generate a concern in evaluating an ISO 14001 EMS program. The other example of separation that may be acceptable is complete separation of the supporting unit (industrial township) from the industrial certification process, this would seem reasonable to most auditors as there may not be impact of the township activities on the industrial activity.

In the EMS model described below the "Plan, Do, Check, Act" steps have been expanded into seventeen elements that are linked together. These EMS elements and their linkages are discussed in Fig1.

- **EMS helps in better compliance with environmental laws and regulations.**
- **EMS provides the ways to improve on environmental performance.**
- **EMS addresses the organization's significant environmental impacts arising from its activities / products / service.**
- **EMS addresses the organisation's business and environmental concerns.**
- **EMS assures a commitment to pollution prevention.**
- **EMS helps in having better emergency preparedness plan.**
- **Overall EMS helps in having awareness among the employees.**

Why does an Organisation need ISO 14001 ?

ISO 14001 standard is built on Total Quality Management concepts. To improve environmental management, organization needs to focus not only on what things happen but also on why they happen. Over time, the systematic identification and correction of system deficiencies leads to better environmental (and overall organizational) performance. ISO 14001 standard are built on the "Plan, Do, Check, Act" model introduced by Shewart and Deming. This model endorses the concept of continual improvement.



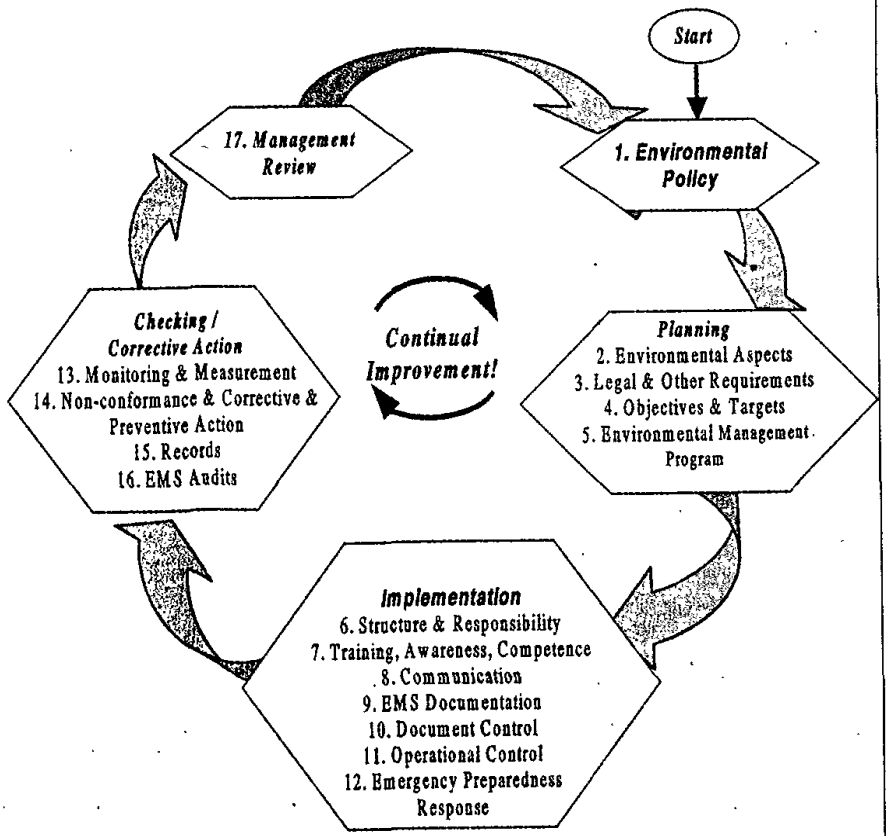


Figure 1: EMS Elements and their linkages as per ISO 14001