ISO 14000 – INTRODUCTION, CERTIFICATION PROCESS AND STANDARDS

M.Sc. 2nd Semester

Paper- 204

ENV SCIENCE

WHAT IS 1SO 14000...?

ISO **14000** is a series of environmental management standards developed and published by the International Organization for Standardization (**ISO**) for organizations. The **ISO 14000** standards provide a guideline or framework for organizations that need **to systematize and improve their environmental management efforts.**

WHY ISO 14000..?

- Reduces environmental liability

- Enhances public image and reputation

- Assures customers

- Satisfies investor criteria

- Reduces your consumption of materials and energy

- Facilitates permits & authorizations

- Reduces the cost

- Improve industry-government relations

TO WHOM DO THE STANDARDS APPLY..?

The ISO 14000 standards can be applied to:

- large and small business & industry

- service sectors (hospitals, hotels, etc.)

- government organizations

- all types of organizations, of all sizes anywhere in the world.

ISO 14000 POLICY

- Prevention of pollution.

- Continual Environmental Improvement.

- Commitment to comply with Environmental Laws and Regulations

- Establish framework for setting and reviewing objectives and targets

- Documented, implemented, maintained, and communicated to employees.

- Available to the public

TARGETS & OBJECTIVES

- Reduce waste generation by recycling

- Reduce energy consumption by use of alternative lighting

- reduce energy consumption by reduction of compressed air leaks

- Improve chemical management system software

- Improve management of Industrial Waste water

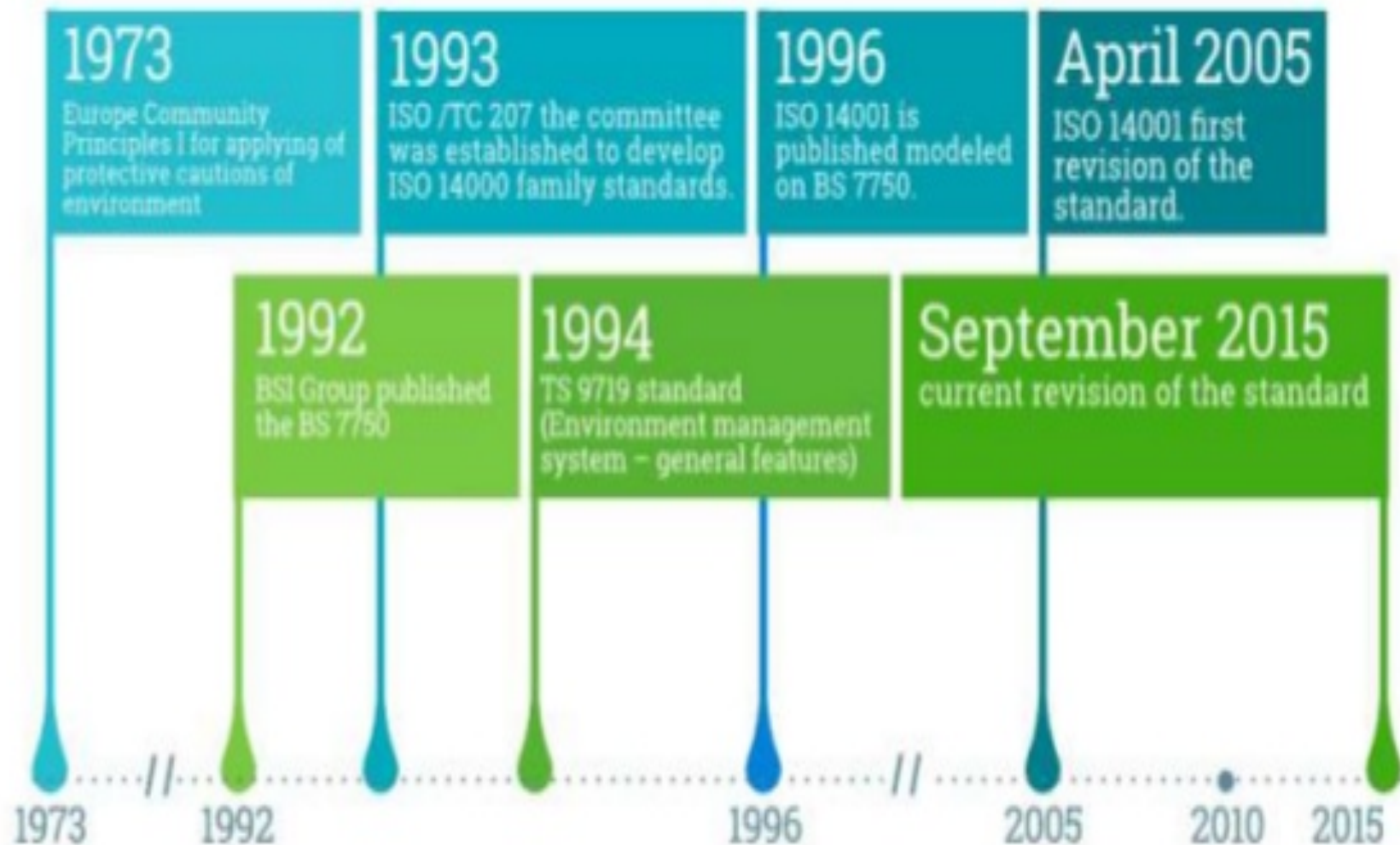- Improve hazard waste management through solvent recovery

DIFFERENCES BETWEEN ISO 9000 AND ISO 14000

- Encourage organizations to institute quality assurance management programs.

- The major system requirements are defined by customers

- Includes evaluation of suppliers and review of customer contracts.

- The goals of a quality system are generally quite clear

- Deals with the management of the environmental effects of an organization

- Customers as well as many additional stakeholders

- Include methods of evaluating environmental impacts and systems

- The situation for environmental systems is not so straight forward

SIX KEY ELEMENTS: ISO 14000

History of Environmental Management System Standards

1973
Europe Community Principles I for applying of protective cautions of environment

1993
ISO /TC 207 the committee was established to develop ISO 14000 family standards.

1996
ISO 14001 is published modeled on BS 7750.

April 2005
ISO 14001 first revision of the standard.

1992
BSI Group published the BS 7750

1994
TS 9719 standard (Environment management system – general features)

September 2015
current revision of the standard

1973   1992   1996   2005   2010   2015

ASPECTS OF ISO 14000

- Environmental Management System

- Environmental Auditing and related investigations

- Environmental Labels and Declarations

- Environmental Performance Evaluation

- Life Cycle Analysis & Terms and Definitions.

ISO 14000 FAMILY

A series of guidance documents and standards to help organizations address environmental issues.

- 14001: Environmental Management Systems
- 14004: EMS general guidelines
- 14010: Guidelines for Environmental Auditing
- 14011: Guidelines for Auditing of an EMS
- 14012: Auditing - Qualification criteria
- 14020: Environmental Labeling
- 14030: Environmental Performance Evaluation (EPE)
- 14040: Life-Cycle Assessment (LCA)

14001: ENVIRONMENTAL MANAGEMENT SYSTEMS

ISO 14001 is the specification standard that is a model for an environmental management system.

- Systematic way of managing an organization's environmental affairs

- Based on Plan-Do-Check-Act Model (PDCA)

- Focused on **Continual Improvement** of System

- Addresses immediate and long-term impact of an organization's products, services and processes on the environment.

- A tool to improve environmental performance

14004: EMS GENERAL GUIDELINES

- ISO 14004:2016 provides guidance for an organization on the establishment, implementation, maintenance and improvement of a robust, credible and reliable environmental management system.

- This International Standard helps an organization achieve the intended outcomes of its environmental management system, which provides value for the environment, the organization itself and interested parties.

- the intended outcomes of an environmental management system include:

- enhancement of environmental performance;

- fulfilment of compliance obligations;

- achievement of environmental objectives.

14010 – 12 ENVIRONMENTAL AUDITING

- Three standards actually cover the topic of environmental auditing. They are:

ISO 14010 - General Principles of Environmental Auditing

ISO 14011/1 - Audit Procedures - Part 1: Auditing of Environmental Management Systems

ISO 14012 - Qualification criteria for Environmental Auditors

- Other related standards are expected to be developed at a later times. For right now, we only need to examine these three guideline standards for ISO 14001 to gain a basic understanding of how an environmental management system (EMS) will be audited.

14020: ENVIRONMENTAL LABELING

The objectives of ISO 14021 are stated to be the harmonization of the use of self-declared environmental claims with the following anticipated benefits :

- Accurate and verifiable environmental claims that are not misleading

- Increased potential for market forces to stimulate environmental improvements

- Prevention or minimization of unwarranted claims

- Reduction in marketplace confusion

- Facilitation of international trade

- Increased opportunity for consumers to make more informed choices

14030: ENVIRONMENTAL PERFORMANCE EVALUATION (EPE)

- An internal management process that provides information to facilitate management decisions regarding an organization's environmental performance. This standard is an excellent companion to ISO 14001:2015, which requires organisations to demonstrate an improvement in environmental performance. These standards provide powerful tools for organisations, giving them a means to track their progress towards a more circular and sustainable economy.

1. Environmental condition indicators, for presenting achievements in context

2. Operational performance indicators, used to demonstrate change in resource use

3. Management performance indicators, for showing cost savings and improvements in training

14040: LIFE-CYCLE ASSESSMENT (LCA)

LCA can assist in

- Identifying opportunities to improve the environmental performance of products at various points in their life cycle,

- Informing decision-makers in industry, government or non-government organizations (e.g. for the purpose of strategic planning, priority setting, product or process design or redesign),

- The selection of relevant indicators of environmental performance, including measurement techniques,

- Marketing (e.g. implementing an eco-labelling scheme, making an environmental claim, or producing an environmental product declaration).

BENEFITS OF ISO 14000

- Helps organizations meet and maintain regulatory and legislative requirements

- Minimizes the environmental impact of products, activities, and resources.

- Promotes environmental awareness

BENEFITS OF ISO 14000

- Better conformance to environmental regulations,

- Greater marketability,

- Better use of resources,

- Higher quality goods and services,

- Increased levels of safety,

- Improved image and Increased profits

ISO 14001 CERTIFICATION PROCESS:

- Preliminary assessment
- Document review
- Initial assessment
- Main assessment
- Certification/registration.
- Surveillance

Organizations willing to achieve ISO 14001 2015 certification shall follow following recommended procedure.

1) Finalize consultant / training agency for ISO 14001 2015 certification.

2) Take training on ISO 14001 2015 standard requirements.

3) Identify gaps in existing system against requirements of ISO 14001 2015 & take necessary actions to comply with identified gaps.

4) Prepare manual, procedures, operational control procedures, forms and other documents as required by ISO 14001 2015 standard.

5) Give application to certification agency

6) Perform internal audit and management review.

7) Stage 1 audit by certification agency.

8) Closure of findings of stage 1 audit.

9) Stage 2 audit by certification agency.

10) Closure of findings of stage 2 certification audit.

Following documents shall be maintained

1) Environmental management system scope
2) Environmental policy
3) Environmental objectives and environmental management program
4) Environmental procedures
5) Legal compliance document
6) Environmental aspect and environmental impact document
7) Emergency preparedness plan
8) Operational control procedures
9) Instrument calibration

ISO 14001 (14000) 2015 certification is Environmental management system EMS certification registration. Objective of ISO 14001 2015 system is to improve Environmental performance of an organization

Some of the key requirements of ISO 14001 (14000) 2015 certification are;

1) Preparation of ISO 14001 (14000) 2015 Environmental manual, ISO 14001 (14000) Environmental procedures, ISO 14001 2015 (14000) Environmental policy, ISO 14001 (14000) environmental objectives

2) Compliance with ISO 14001 2015 (14000) legal requirements pertaining with Environment. It includes requirement compliance of State pollution control boards and National pollution control boards.

3) Identification of ISO 14001 2015 (14000) Environmental aspects and segregation of them from Significant and non significant category.

4) Implementation necessary ISO 14001 2015 (14000) environmental operational controls to prevent pollution and improve environmental management system performance.

5) Identification of ISO 14001 2015 (14000) Environmental objectives targets and programs for continual improvement in environmental management system.

6) preparation and implementation of ISO 14001 2015 (14000) Emergency preparedness procedures. Mock drills for continual improvement in ISO 14001 (14000) environmental management system.

7) ISO 14001 2015 (14000) environmental management sytem Management review, internal audits, control of documents, control of records,

8) Employee competence review and trainings which are affecting performance of ISO 14001 (14000) 2015 environmental management sytem .

THANK YOU