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Environment Auditing : A Future Requirement

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Abstract : An environmental audit is a detailed analysis of an organization's products and processes that evaluates its performance from an environmental perspective. Any industry affects the environment directly or indirectly all the time. This article address brief introduction about environmental auditing,which brings out performance in measurable terms,landmarks associated with it and different standards applicable to environmental auditing.
Keyword - Standards, Types, Institutions, Benefits, Procedure.

Introduction

Environmental auditing started developing at the beginning of 70s of the past century in the United States of America and in the Western Europe. In that period the developed countries were adopting the environmental legislation in order to reduce the harmful consequences of the companies' actions that had affected the environment. At the beginning the environmental auditing involved reviews of independent experts assessing whether companies operated in line with the demands of the environmental legislation. Presently the companies decide to undertake environmental audits in order to obtain an independent external assessment whether the management has created efficient environmental policy and provided for acceptable environmental attitude. The most important results of the environmental audits are recommendations how a company can reduce the damaging impacts on the environment in an efficient and cost-benefit manner, and how it can in a long-term save funds by using environment friendly technology.[5] The implementation of the environmental audits is not obligatory for the companies never the less it shows high awareness of the companies on their social responsibilities and an overall attitude towards the environment. Sections 53X and 53V of the *Environment Protection Act 1970* define two types of environmental audits – referred to as 53X and 53V audits.[4]

53X audits

A 53X ('condition of the environment') audit is most frequently used by the planning system and verifies that potentially contaminated land can be used for a specific use (industrial, commercial or residential). From a 53X audit comes either a certificate or statement of environmental audit.

- Search for properties issued with a certificate or statement of environmental audit.

Generally, a 53X audit is required when land proposed for new use is potentially contaminated or already covered by an environmental audit overlay (EAO) within a planning scheme. An example of this might be construction of residential buildings on former industrial land. The audit may be required by local government to satisfy a planning permit or undertaken voluntarily to satisfy commercial due-diligence requirements.

The auditor undertakes an assessment of the condition of the land, gathering information about the site, including its history of use, sampling and analysis of the soil (and sometimes groundwater, surface water and air).

- View the 53X audit process as a GIF image (79KB), Acrobat file (PDF 325KB) or text description.

Outcomes of a 53X audit

After a 53X audit either a certificate or a statement is issued.

A certificate of environmental audit indicates that the land is suitable for any use – there are no restrictions on the use of the site due to its environmental condition.

A statement of environmental audit indicates the site is:

- not suitable for any use

  or

- suitable for a nominated use, subject to conditions and/or limitations in its use (local government is responsible for enforcing these conditions). Once a statement is issued, the site owner or occupier must use the site in a manner consistent with the issues outlined in the statement.

The occupier of a site holding an issued statement of environmental audit must provide a copy of the statement to any person who proposes to move onto or otherwise occupy the site.

53V audits

A 53V ('risk of harm') audit is most commonly used by EPA to understand the risk to the environment posed by an industrial activity or to validate that cleanup of contaminated land or groundwater has occurred.

The 53V audit assesses the risk of any possible harm to a site caused by an industrial process or activity, waste substance or noise. This includes audits associated with the construction and operation of landfills.

A 53V audit can be used to demonstrate compliance with an EPA licence or to assess the remaining contamination on a site to support the scope of a cleanup plan.

A 53V audit can be required by a planning authority (local government) when there is a planning permit application relating to a site located in a landfill buffer zone.

- View the 53V audit process as a GIF image (79KB), Acrobat file (PDF 325KB) or text description.[3]

Outcome of a 53V audit

The outcome of a 53V audit is an audit report, usually with recommendations for ongoing management of the land, including a direction or guidance to minimise or further investigate any remaining risks.

Different other types of audit have been carried out by companies (ERM, 1996, Thompson and Therivel, 1991):

- **compliance audit** - the most common type of audit consisting of checks against environmental legislation and company policy;
- **issues audit** - an evaluation of how a company's activities relate to an environmental issue or (e.g. global pollution, energy use) or an evaluation of a specific issue (e.g. buildings, supplies);
- **health and safety audit** - an assessment of risks and contingency planning (sometimes merged with environmental auditing because of the interconnected impacts of industrial processes and hazards);
- **site audit** - an audit of a particular site to examine actual or potential environmental problems;
- **corporate audit** - an audit of the whole company and its polices, structures, procedures and practices;

- **due diligence audit** - an assessment of potential environmental and financial risks and liabilities carried out before a company merger or site acquisition or divestiture (e.g. contaminated land remediation costs);
- **activity or operational audit** - an assessment of activities that may cross company departments or units (e.g. energy or waste management) and
- **product or life cycle audit** - an analysis of environmental impacts of a product throughout all stages of its design, production, use and disposal, including its reuse and recycling (cradle to grave).

Environmental auditing is essentially an environmental management tool for measuring the effects of certain activities on the environment against set criteria or standards. Depending on the types of standards and the focus of the audit, there are different types of environmental audit. Organisations of all kinds now recognise the importance of environmental matters and accept that their environmental performance will be scrutinised by a wide range of interested parties. Environmental auditing is used to[6]

- investigate
- understand
- identify

Environmental auditing can be done according to different areas and purpose such as management audit, environmental auditing systems audit(EMS),water audit, waste audit,due diligence audit, pollution prevention opportunity audit,material balance audit,etc. it can be done in five phases – Audit planning phase, Pre audit phase, Audit phase. Post audit phase and Audit follow up.Effective environmental auditing ,if followed by management of lagging aspects can lead to satisfied level of compliance and reduce risk to human health and environment.[2]

Environment Auditing and Standards

Most common environmental standards adopted for environmental management systems of an organization is ISO- 14001. International organization for standardization (ISO) started working on ISO-14001: Standards for environmental management system, in 1993 and first standard came out in 1996 by technical committee (ISO/TC) No. 207. These ISO-14000 Standards are descriptors for a set of standards that have been developed in response to global concern about the environment.These standards represent a consensus agreement by national bodies around the world about the procedures that need to be followed in astablishing an effective environmental management system.[1]

Important standards development bu ISO/TC 207of the ISO for environmental auditing are –

● ISO -14010 (1996) :Guidelines for environmental auditing : General principles –

It gives general guiding principles governing the audit process and sets out necessary basic conditions that have to be carried out. Now this has been replaced by ISO -19011.

1. Audit should have a clear objective and its scope should be defined clearly.
2. Auditing team membersmust be independent and unbiased. Team should have members from different field of specialization.
3. Systematic procedure should be followed.
4. Audit evidence should be measurable.
5. Audit finding should be reported properly.[2,3]

● ISO-14011(1996): Guidelines for environmental auditing –

This explain the objectives for an EMS audit to confirm that the EMS has been properly implemented and is meeting its demand, is managed satisfactorily and is reviewed regularly to try to achieve continual improvement in its performance.[1,2]

It described procedure for conducting audits of EMS. This includes obtaining commitment, defining scope, objective, criteria, and area, assembling audit team, auditing process including interaction within audit team, reviewing backgroung information and operational information,preparation of audit protocols,opening

meeting, document review,staff interview,site inspection, sampling, and analysis, recording of finding, closing meeting, preparation of audit report and its retention.

This standards has also been replaced by ISO 19011.

- ISO-14012(1996): Guideline for environmental auditing : Qualification criteria for environmental auditors-

This standard describes the educational qualifications required, personal skills needed and the level of training and experience necessary for auditors who are appointed to carry out audits andcertify an EMS.

The key elements includes[1,2]-

1. Education and work experience.
2. Formal and on job training.
3. Personal traits and skills.

- ISO -19011(2011): Guideline for auditing management system –

In order to ease the problem of multiple standards ISO- 14010(1996), ISO -14011 (1996) and ISO-19011 which was published in oct 2002 for guidance on combinedmanagement systems audits i.e ISO 14001 based environmental management systems audits. Since it was formulated to address auditing issues of both management systems, itoffered comprehensive guidelines for better audit. But later on ,in 2011 it has been updated.

Compared to the 2002 version, following changes have been done[5]

1. The scope has been broaded from the auditing of quality and environmental management systems to the auditing of any management system.
2. Remote audit methods and the concept of risk have been introduced.
3. New principle has been added as confidentiality.
4. The completence determination and evaluation process has been strengthened.
5. Descriptive examples of disciplines – specific knowledge and skills have been included.

Job duties

Duties vary significantly from job to job, but the following list includes typical job duties one might encounter as an environmental auditor:

- Plan projects and audit methodology and procedures.
- Conduct site visits in order to assess facilities and operational procedures.
- Conduct interviews and meetings.
- Assess compliance with environmental regulations and guidelines.
- Research environmental regulations and review publications for additional information relevant to environmental auditing.
- Analyze audit documentation and data and prepare a report of audit findings.
- Present audit findings to clients.
- Contribute to the generation of recommendations to correct non-conformance or improve environmental performance.
- Contribute to the formulation of an action plan to implement recommended changes based on audit findings.[4]

Institution

It is important for Environmental Auditors to seek third-party validation of their skills through Certification. The following Environmental Professional (EP) titles are important for auditors:[2]

- EP(CEA) - Environmental Professional specialized as a Compliance, Environmental Auditor
- EP(EMSA) - Environmental Professional specialized as an Environmental Management Systems Auditor.

Following institutions in india are involved in training related to environmental audit-

1. National Insitute of Training for Standardization (NITS) Noida (U.P).
2. International Centre for environment Audit and Sustainable Development (Iced), Jaipur Rajasthan.

Benefits of environmental auditing

An environmental audit of a site provides people with confidence as to what a site can be used for and to determine what, if any, costs may apply in managing it into the future. Since the audit system commenced in 1990, more than 3000 audits have been completed, underpinning some of the most significant urban-infill and building projects across the state. As an example, the Docklands precinct was able to be transformed into the safe, vibrant place that you see today, through the undertaking of several 53X audits.

Without this system, many sites may not be developed for future use or may pose unacceptable risks to human health and the environment – projects that ultimately benefit the wider community.

It has numerous benefits and can be employed to reduce cost of waste management and handling,enhance credibility with public,reduce liability for any organization, reduce input cost,and reduce chance of environmental fines,and promote good goodenvironmental management practices etc.[2]

Environmental Auditing and Environmental Management Systems (EMS)

An EMS is a tool designed to enable organisations to target, achieve and demonstrate continuous improvement in environmental performance. It is one integrated management process with a number of stages, which includes an environmental audit. There are a number of standards (e.g. the British Standard BS7750 (BS11992), the European Eco-Management and Audit Scheme for Industry (CEC, 1993) and the DoE Eco-Management and Audit Scheme for UK Local Authorities (DoE,1995)). These consist of most or all of the following elements depending on the standard, to:

1. adopt an environmental policy to confirm and promote commitment to continual improvement in environmental performance;
2. undertake an environmental review to identify significant environmental issues and effects;
3. set up environmental programmes of objectives, targets and actions;
4. establish an environmental management system to ensure the implementation of the necessary actions to achieve these objectives;
5. undertake periodic environmental audits to assess the performance of such components;
6. prepare an environmental statement on environmental performance; and
7. obtain independent verification of the environmental statement.[5]

Environmental auditing practice and procedures

1. The more specific type of environmental audit involves the collection, collation, analysis, interpretation, and presentation of information which is used to:

- assess performance against a set of requirements or targets, related to specific issues;
- evaluate compliance with environmental legislation and corporate policies; and
- measure performance against the requirements of an environmental management system standard.

2. The systematic, periodic, documented and objective aspects of environmental auditing are fundamental to effectiveness. It is fast developing as an important and powerful tool in the corporate environmental assessment and management toolkit. The requirement periodically to repeat audits ensures that there is an ongoing commitment and a systematic process to improve environmental performance (Grayson, 1992). The scope of repeat audits can also broaden to become more comprehensive as experience and expertise are accrued or as new issues or legislation emerge.

3. Sometimes the terms assessment, appraisal, monitoring or review have been used interchangeably with audit. Audit implies detailed statistical verification with a periodic cycle between audits. An assessment or review is usually a one-off event which is carried out in less detail and with less direct checking of data.[3]

4. Environmental Reviews provide a baseline overview of current environmental effects or impacts, relevant environmental legislation and a statement of existing environmental performance. The Reviews provide a basis for establishing a management action plan. They can become part of an environmental management system to help implement the plan. When they are undertaken as the first of a series of periodic environmental audits they have been referred to as a 'Baseline Environmental Audit'.[2]

Environmental auditing in India

The Supreme Audit Institution (SAI) in India is headed by the Comptroller and Auditor General (CAG) of India who is a constitutional authority. The CAG of India derives his mandate from Articles 148 to 151 of the Indian Constitution. The CAG's (Duties, Powers and Conditions of Service) Act, 1971 prescribes functions, duties and powers of the CAG. While fulfilling his constitutional obligations, the CAG examines various aspects of government expenditure and revenues. The audit conducted by CAG is broadly classified into Financial, Compliance and Performance Audit. Environmental audit by SAI India is conducted within the broad framework of compliance and performance audit.[7]

Conclusion

Environmental Auditing reduce not only the pollution load but also reduces input cost. There is a need to make it compulsory for big industries and initiation od specialized degree programs in educational institutions to take environment auditing as a profession so that more skilled man power can be developed in this field. In the 21st century sensibility towards environmental issues has increased all over the world. Network of environmental regulations are widening, which results in increased pressure for organizations to improve their environmental performance and to decide whether their efforts to manage environmental issues are sufficient or not.

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