



**LECTURE:**

**“Environmental Audit”**

**SUBJECT TEACHER**



## ENVIRONMENTAL AUDIT:

Way back in 1970's, an exercise which generated necessary information on analysis of pollutants being generated or will be generated and compilation of annual estimates was termed as Environmental Audit.

Various synonyms commonly in use for environmental audit are review, surveillance or assurance.

### Definition:

Environmental Auditing is a management tool comprising of a systematic, documented, periodic and objective evaluation of how well the Environmental Management Systems (EMS) are performing.



## ENVIRONMENTAL AUDIT:

### Objectives:

- (1) Waste prevention and reduction
- (2) Assessing compliance with regulatory requirements.
- (3) Facilitating control of environmental practices by a company's management.
- (4) Placing environmental information in the public domain.

The Environment Audit is undertaken voluntarily in various countries such as UK, USA, Canada etc. In India, in most of the states, it is mandatory.

The statutory Environmental Audit report provides an integrated perspective of efforts taken, performance achieved and planning made for future.




## ENVIRONMENTAL AUDIT:

### How the idea first came up in Gujarat ?

In view of violation of Pollution control norms by industries on a large scale and as the enforcement agencies (PCB) were not equipped fully in terms of manpower and infrastructure, they could monitor limited number of industries spread over in different areas in the entire state.

The Honourable High Court of Gujarat, therefore thought in the interest of Justice to introduce the Environment Audit scheme.



This Environmental Audit scheme was introduced with a logic that the Auditors (qualified technical professional) would become a link between the individual industries on one hand and the GPCB & other public authorities on the other hand.

The Environmental Audit scheme was introduced to add the vital elements of accountability and transparency.

The scheme of Environmental Audit is monitored and supervised by GPCB. Also, the GPCB recognizes and publishes the list of Environmental Auditors.



## ENVIRONMENTAL AUDIT:

### Primary Benefits:

- (1) Environmental Audit assesses compliance with the regulations.
- (2) It gives an opportunity for comprehensive review of environmental policies, management systems, organizations and practice.
- (3) It promotes sustainable development.
- (4) It indicates and gives the adequacy and efficacy of the environmental management system (EMS) of an industry.

## ENVIRONMENTAL AUDIT:

### Additional Benefits:

- (1) Increasing awareness of Environmental policies and responsibilities.
- (2) Identify potential cost savings from waste recovery, recycling and minimization.
- (3) Promoting an up to date environmental data base, which may be drawn on, when making decisions on plant modifications or expansion.
- (4) Organizing training programmes and providing information for upgrading the skills of employees.
- (5) Increases the market value and customer satisfaction for good environmental performance.



## ENVIRONMENTAL AUDIT:

Each team of Environment Audit shall comprise of atleast following four persons:

- (1) Environmental Engineer
- (2) Chemical Engineer
- (3) Chemist / Chemical Technologist
- (4) Microbiologist / Env Science





## ENVIRONMENTAL AUDIT:

### Procedure:

There are three phases of an Environmental Audit to be taken up for an industry:

- (1) Pre-Audit activities
- (2) Activities at site
- (3) Post audit activities



# ENVIRONMENTAL AUDIT:

## Procedure:

### (1) Pre-Audit activities:

- Pre-audit activity serves to collect background information on industry. This is carried out by preparing a questionnaire and interview with concerned persons of the industry.
- Information on industry include products manufactured, raw materials used, quantification of water usage, waste water generation, gaseous emission, solid waste generation, hazardous waste generation.
- The management's environmental policies are brought to the notice of Environmental Auditors.



## (2) Activities at site:

- After receiving the necessary information from the industry, the recognized and organized audit team is mobilized at the site.
- Processes at various unit operation levels and the subsequent pollution control methodologies are studied and understood.
- The data collection for each facility, which is directly or indirectly related with discharge or emission from the industry, is carried out.
- The sampling and analysis of various environmental components of industry is **carried out thrice in one year i.e. summer, monsoon and winter.**
- The components to be monitored are stack emission (both process and combustion), effluent discharge, solid waste, hazardous waste, noise and ambient air monitoring.



### (3) Post-Audit activities:

- Post audit activity includes synthesis of whole data of the industry i.e. general information, raw materials consumption, water and electricity consumption and results of environmental monitoring.
- This Environmental Audit report also includes compliances of the industry with respect to Water Act-1974, Air Act-1981, Environment (Protection) Act-1986 and Hazardous Waste Rules-2016.
- There is also provision at the end of the report about certification of the adequacy and efficacy of the EMS of the industry.

- Five (5) copies of the Environmental Audit reports are prepared with signatures of different persons of both party i.e. Environmental Auditors and Industry.
- 3 copies submitted to GPCB  
1 copy with industry  
1 copy with Environmental Auditor
- If any industry does not submit its periodical Audit report as per the time schedule (by 30<sup>th</sup> June every year), GPCB shall stop all manufacturing and processing activities of that industry.
- Also, the GPCB shall intimate the particulars of such defaulting units, including address and electricity meter number to the GIDC / GEB / AEC within two weeks, to disconnect the supply of water and electricity.

# FORMAT FOR ENVIRONMENTAL AUDIT:

The Environmental Audit report format consists of following:

PERIOD: From 01/01/2008 to 31/12/2008

(A) General Information:

Name and address of the owner of industry, other general information like phone nos, fax nos.

(B) Product Details:

Manufacturing process and consumption of raw materials.

(C) Water:

Quantity of water consumed and quantity of waste water generated. Details of ETP, quality of effluent, method of disposal of effluent etc.

(D) Air:

Details of flue gas stacks, stack monitoring facilities, air pollution control measures, quality of air emission and ambient air.

- (E) Hazardous (Solid) Waste:  
Quantity, sources and composition, storage, treatment and disposal methods, treatment of leachate.
- (F) Site Plan:  
Details of location of ETP, sampling points etc.
- (G) Resource Recovery:  
Cost aspects of pollution control facilities, reduced cost of production due to conservation of natural resources, use of clean production technology.
- (H) Health:  
Hazards in the process or work environment, details of pre-employment and periodical examination.
- (I) Accidents:  
Details of accidents and remedial measures.

(J) Safety Measures:

General environment of the industry, details of personal protective equipments (PPEs), details of disaster management facilities, on-site / off-site emergency plans.

(K) Noise:

Sources, monitoring and measures.

(L) Odour:

Measures taken for odour control in and around the industrial premises.

(M) Cases / complaints:

Cases / complaints under the Water Act-74, Air Act-81 and EPA-86.

(N) Compliance:

Compliance of conditions of NOC / CC-A.



- (O) Hazardous Chemicals:  
Details of production and handling of hazardous chemicals.
- (P) PLI:  
Details of Public Liability Insurance (PLI) Act.
- (Q) Water Cess:  
Details about the payment of Water Cess for previous and current year.
- (R) Consultant:  
Name and address of the Consultant.
- (S) Signatures:  
Name and signatures of
  - (i) Recognized persons of the industry / factory
  - (ii) All the members of the Environmental Audit team.

# SUGGESTIONS

- For popularization of environmental auditing in India and to serve as an important environmental management tool for the improvement of companies and industries
- To complete the environment legislation and quality adoption of cleaner technologies. For prevention and abatement of different types of pollution by the Indian corporate sector and organizations.
- An environment audit report must be published annually by the companies, mandatory for all Indian companies.
- The environment report must reach the public, so that it would succeed in minimizing the communication between public and industries.



# *Thank You*

