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Environmental Auditing

An environmental audit is an independent, systemic method of verifying that environmental regulations. Internal policies and good operating practice are being followed. The programmes designed to ensure that the industrial operations comply with the established environmental standards and good industry practice, are now formalized.

In our country a notification under the "Environment protection Rules, 1986 has been issued in 1992," requiring industries to submit annual report of environmental auditing for there activities / operations, each year, beginning with 1992-1993. The audit report has been changed to "Statement" in the subsequent amendment in the year 1993. The industries are now supposed to submit their environmental statement for a financial year ending on 31st March, to the concerned State pollution control Board, on or before 30th September each year.

Auditing with a greater details, which goes much beyond mere identification of regulatory violations may be termed as "management audit". Environment Audit is a management tool to safeguard environment by (a) facilitating management control of environmental practices and (b) assisting compliance with company policies to meet regulatory requirements.

The concept started was back in 1970 when some of the companies voluntarily started evaluation of their unit processes and pollutant generation from production processes. Such programmes were termed as environment health and safety auditing, reviews surveys, assessment

quality control. The concept today has developed into formal audit programmes called environment audit.

"Environment Audit is defined as basic management tool which comprises, A systematic, documented, periodic and objective evaluation of, how well organization, management systems and equipment's are performing."

Need for an Environment Audit Environment audit needs for an industry are of internal as well as external value.
It should be appreciated that an audit is different than an assessment. An audit implies an overview with less details and direct checking, audit essentially implies statistical verification and direct checking with greater details.

Environmental auditing thus may be viewed as a 'management tool' internally, and 'liaison externally with the public and the regulatory bodies. It helps in pollution control, improves production safety and health and conservation of natural resources by way of:
→ ensuring waste prevention and reduction
→ assessing compliance with regulatory requirement
→ placing environmental information to the public.

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Procedure for Environmental Auditing : Generally there are three phases when an environment audit is taken up for a industry.
The 1st phase is known as preaudit activity, pertaining to collection of information.
The 2nd phase is the activity at site pertaining to evaluation of information collected
The 3rd phase is post audit activity pertaining to drawing conclusions and identifying areas of improvement;

Pre-Audit Activity : It serves to collect background information on industry. This is carried out by developing a questionnaire and interviews with concerned personnel. After receiving the information an audit team is organized and resource for work at site are mobilized, visit programmes are arranged so that managements and staff personnel do not consider audit exercise as a raid, instead cooperator to provide factual information. During pre-audit activities an audit plan is developed, objectives are defined and tasks are assigned to team members.

Activities At Sites: Site activities actually start with a meeting with senior management personnel's who are made aware of the audit plan. Site visits are then organized to identify and understand the arrangement control systems. After understanding the processes at various unit operation levels, raw material balance is worked out in terms of input and output for the entire process.

Preparation of Draft Report: After pre-audit activity and on site activity is over, a draft report is over, prepared and put forward to a senior management. The draft report should be prepared with findings and recommendations with the participation of management and acceptance only the whole exercise become meaningful.

Advantages of Environmental Auditing: Environment audit report provides the necessary information on how well the management systems are performing to keep pace with sustainable level of development.

provides an up to date environmental data to the inspecting authority. Environment audit brings out the thrust areas, which helps in safeguarding our environment and established liaison with local authorities to convince them that effective audits are undertaken.

Conclusions: It can be concluded that environment audit when taken up seriously, the benefits of such an exercise are to industry itself. It provides assurance of compliance with environmental regulation, standards etc. It facilitates in development of environmental manage systems and improvement in environmental performance. Further, it reduces the potential liability.

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Case Study

Environment audit report for the fertilizers of the financial year April to March.

1. Various Products: urea,
   Ammonia,
   Calcium Ammonium Nitrate,
   Methanol.
2. Raw materials used: Coal, Naptha, Limestone
3. various plants: Steam Generation plant, Ammonia plant, urea plant, Methanol.
4. Water consumption: Process water — 12586 m^3/day
   Cooling water — 3369198 m^3/day
   Domestic water — 2959.36 m^3/day
5. Analysis: Coal Analysis, Raw water analysis,
   — characteristics of waste water discharge into river
6. Emission results: Stack from SGP,
   urea prilling tower,
   Chromium sludge analysis,
   Ambient air quality data
7. Characteristics of raw water discharge into river:
   p^H — 6.5 to 8.0
   Total suspended solid — 4.0 to 39 mg/lit
   Ammonical Nitrogen — 0.6 to 16.5 mg/lit
   free nitrogen — untraceable to 24 mg/lit
   vanadium — untraceable
   chromates — untraceable
   oil and grease — 1 to 8 mg/lit
8. Air waste: urea dust from prilling tower
   Suspended particulate matter from SGP.
9. Hazardous wastes:
   From process — Discarded empty bags of sodium dichromate packing.

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From pollution - Sludge from chromium ETP
chromium
control

10. Solid Wastes: Carbon from gasification,
fly ash,
chromium sludge.

11. Disposal practice:
(i) for fly-ash - Ash handling system is hydropneumatic. The ash slurry is pumped to slurry pond the decanted water which is free of ash, is discharged in river.
(ii) for Carbon from gasification of oil - Recycled and rectified with in process.