

Guidelines – Performance Audits

Issued by: Inspection Department – Operations Section

1.0 Overview

Recent years have seen tremendous growth in public awareness and concern for the environment and its impact on the quality of life. The proposed auditing is a commonly used term that describes an examination of operating facility's operation and practices. Such audit would serve as a management tool comprising a systematic, documented, periodic and objective evaluation of how well a particular activity is performing with regard to PCFC aims/requirements.

All FZ companies should be encouraged first to get EMS ISO 14001 and OHSAS 18001, as relevant, certifications. Because current environmental legislation, marketing requirements and community expectations reflect an increased awareness of the need to protect the environment that requires all aspects of the industrial activities to be undertaken in an environmentally responsible way. Environmental audits can help the industry to become environmentally responsible and demonstrate this responsibility to the community.

Environmental audits help in assuring the accuracy and relevance of environmental monitoring. They also measure an organization's environmental performance and can encourage continual improvement. Procedures for conducting an environmental audit vary from simple checklists (see Attachment) to complex standards or programs. These procedures use a systematic approach to record whether and operation is meeting its environmental objectives.

The steps include: pre-audit planning site activities (interviews and inspections); gathering and evolution of audit evidence; development of audit findings; and recommendations, documentation and reporting of the findings and audit follow-up (action plan, etc).

In their most basic application, environmental audits help companies demonstrate to regulatory authorities that they are complying with legislation and regulations and the conditions contained in pollution control approval, discharge licenses/permits and leases. Identifying issues through the audit process may also lead to more efficient operations that go well beyond regulatory requirements.

2.0 Performance Audit Requirement

This type of audit begins with an overview of operating facility, determining the mass emissions to the air, water, etc. and comparing with the permitted levels.

For today's industry, regulations, financial reporting equipments, market competition and community expectations require environmental performance to be assessed and reported.



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The need to carry out an environmental audit will vary depending upon the type of organization and the objectives of the audit. The principal aims of an environmental audit are to identify and evaluate potential liabilities, risks and hazards. This in turn will assist in assessing the viability of operations after including the cost of reducing environmental risks and liability to acceptable levels.

There is no single environmental audit procedure applicable to all situations. An audit can take different forms to achieve different objectives. The reason for undertaking an audit and the agreed outcomes are the deciding factors.

For auditing purpose, the FZ industries can be graded as follows:

a. Grade – A

FZ companies having major chemical / manufacturing processes with serious potential for impacts.

b. Grade – B

FZ companies having medium chemical/manufacturing activities (like blending unit, chemical filling, etc) with medium potential for impacts.

c. Grade – C

FZ companies having no chemical/manufacturing activities (like trading/offices, etc) with no potential for impacts.

The companies where EMS ISO 14001 is implemented would be required to set relevant performance objectives and targets for the management system which link back to the commitments as per policy i.e. prevention of pollution, continual improvement and compliance of performance.

Thus, EMS coupled with OHSAS i.e. Performance Auditing can be used as a framework to help FZ industries improve their overall performance.

3.0 Performance Reporting

A salient requirement to the FZ companies as part of compliance evaluation / Performance Audit would be to regularly submit their monitoring reports to PCFC. This would cover all aspects, releases to the environment, discharges and /or emissions as part of approval/permits, etc.

4.0 Benefits of Performance Audits

The proposed audit would focus on all type of wastes. In the past, waste management has concentrated on end-of-pipe waste treatment; designing waste treatment plants and installing pollution control equipment to prevent contamination of the environment.



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A different philosophy has emerged in recent times, that of waste prevention and reduction. Now, we ask how we can prevent the generation of this waste. How can we reduce this waste? Can we reuse or recover or recycle (RRR options) this waste?

This progressive shift from inspections to proposed audits would have the following benefits:

- Waste quantities are reduced;
- Raw material consumption and therefore costs are reduced;
- Waste treatment costs are reduced;
- The pollution potential is reduced;
- Working conditions are improved; and
- Process efficiency is improved.

In order to prevent or reduce waste generation we need to examine the process to identify the origins of waste, the operational problems associated with the process and those areas where improvements can be made.

An audit is the first step to achieve maximum resource optimization and improved process performance. It is common sense approach to problem identification and problem solving. A waste audit enables you to take a comprehensive look at a site or process to facilitate your understanding of material flows and to focus your attention on areas where waste reduction and therefore cost saving is possible.

Undertaking a waste audit involves observing, measuring recording data and collecting and analyzing waste samples. To be effective it must be done thoroughly together with full management and industry support.

A good waste audit:

- Defines sources, quantities and type of waste being generated;
- Collates information on unit operation, raw materials, products, water usage and wastes;
- Highlights process inefficiencies and areas of poor management;
- Helps set targets for waste reduction;
- Permits the development of cost-effective waste management strategies;
- Raises awareness in the workforce regarding the benefits of waste reduction;



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- Increases your knowledge of the processes; and
- Helps to improve process efficiency.

At the plant level, wastes can be traced to particular processes allowing allocation of treatment changes where necessary; and at the process level the exact origins of wastes can be identified enabling waste reduction measures to be established.

5.0 Conclusions / Recommendations

- 5.1 The proposed shift from current inspections to audits is feasible. The most relevant type of audit would be Performance Audit, as we would be assessing the overall performance of ongoing activities.
- 5.2 Environmental auditing has become an essential management tool for any industrial operation. It is not an end in itself but the basis on which an environmental action plan can be developed to improve environmental performance.
- 5.3 It is recommended that Performance Audits should be part of an ongoing management and improvement program, that is, not a one-off event but a periodic reassessment of the environmental management system.
- 5.4 Performance auditing is an emerging and evolving technique. It has been common in industry only since the 1980's.
- 5.5 International standards for auditing environmental management systems should be used as a useful basis for developing the techniques. Audit remains the most effective tool for assessing occupational, health, safety and environmental risks and for measuring such potential impacts of an operating facility.
- 5.6 The proposed audit outcome recommendations would range from minor changes in operating procedures and training, to performing a detailed wastes inventory to determine the source of problems within the Free Zone companies.