

Occupational health and safety and environmental management systems

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Abstract

Integration of occupational health and safety matters into environmental management systems can bring many benefits to industrial companies. They can avoid duplicated measures and find optimal solutions, because the principles of prevention are similar in environmental protection and safety management. However, the methods currently used in environmental management and engineering such as life-cycle assessments, best available technology reports, and the models of industrial production can hinder this integration, because they take into account occupational risks only to a limited extent. People can also consider occupational safety risks more easily than environmental risks as a natural part of their work. This can lead to the situation where occupational risks are underestimated. © 2000 Elsevier Science Ltd. All rights reserved.

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1. Introduction

A number of different supervision methods will be applied in environmental protection of industry. These can be classified as follows:

- supervision based on administrative regulations and permit procedures;
- voluntary agreements (can be legally binding)
- systems and procedures certified by a third party (certification subject to cancellation);
- unilateral public declarations and commitments by industrial organisations and companies (control through publicity);
- informative supervision conducted by the authorities;
- financial supervision through taxes and charges.

The reduction of industrial discharges and emissions has until now mainly been achieved through administrative supervision and self-steering environmental protection in industry. Although good results have been

achieved with permit systems environmental laws and regulations have at the same time become a more and more complicated matter. For example, the European Union (EU) has more than 200 regulations and directives dealing with environmental matters.

In international policy documents, the voluntary approach, such as environmental management systems, eco-labels and negotiated agreements are often seen as an alternative to the traditional command and control approach. Of these, especially standardised environmental management systems are becoming important means to promote environmental protection in industrial companies. The International standardisation organisation (ISO) accepted its environmental management standard ISO 14 001 in September 1996. The Council Regulation of the European Community, (EEC) No. 1836/93, allowing voluntary participation of companies in the industrial sector in a Community eco-management and audit scheme, called EMAS, came into effect in April 1995.

Implementation of the ISO 14001-standard and the EMAS has been fast (OECD, 1998). According to the statistics gathered by Peglau (1999) there existed

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19.9.1999 in Europe 3004 EMAS-registrations and 5443 ISO-certifications.

From the viewpoint of environmental policy, environmental management systems are particularly interesting as self-regulation methods (Honkasalo, 1998). Other methods of environmental protection display self-regulation characteristics, but in environmental management systems the operators are not only able to choose the methods to achieve the targets, but can also define the targets. The only requirement is a commitment to continuous improvement of the level of environmental protection. Target-setting is decentralised, thus targets can change during the process.

The ISO 14001 standard and the EMAS do not include prevention of occupational safety and health risks. This has been considered one of their weaknesses (BEC, 1996). Occupational health and safety matters can, however, easily be integrated into environmental management systems, although they cannot be certified as a part of these. By integrating environmental and safety matters the company can get synergy advances. Especially in noise control, chemical safety, waste management and prevention industrial accidents, occupational and environmental factors are closely connected to each other. Thus, health and safety experts can learn from environmental protection and vice versa.

The Responsible care program of chemical industry includes both environmental and occupational health and safety matters. Responsible care provides companies with tools to evaluate their own performance and set objectives. Enrolment is voluntary without any external audits, but the signature of the management binds the company to implement the guiding principles and codes of practice and to work together with other companies (ICCA, 1999).

Many companies are also integrating occupational safety and environmental management into their quality systems. The basic approach is same in these systems and thus there are also similarities in their structure and ways of functioning.

International Standardisation Organisation arranged in 1996 discussions about the need to develop safety and health matters for the same kind of management standard as ISO 14001 is for environmental matters. These discussions have shown that most of the countries do not see that there yet exists a need for such a standard. In addition, industry is afraid of the new costs that it can involve and special difficulties it presents to small firms meeting such new challenges. Trade unions also resist this. They are afraid that implementation of an occupational health and safety management standard can lead to deregulation and make the enforcement of occupational safety laws weaker. Also, it has often argued that for historical and cultural reasons occupational laws differ so much

in different countries that it is impossible to create a common international standard.

The work to develop occupational health and safety standards has, however, already begun in many countries. The British Standard, Guide to Occupational Health and Safety Management Systems (BS 8800, 1996) illustrates the possibilities for building up an occupational safety management system as a management system of its own or as a part of a system based on ISO 14001 standard. In Finland, the BS 8800 standard has been translated into Finnish and first sites were certified according to it in March 1998 (Rissa, 1999).

In the following, we will consider those parts of environmental management systems which have connections to occupational health matters and which might cause problems for the latter, if they are not carefully analysed and handled.

2. Building up the management system

A company starts to build an environmental management system by making internal audits. An expert person or group audits and evaluates significant environmental impacts posed by a site and the actions were taken to reduce them. The operations of the organisation are also audited, along with the chain of responsibility and other factors that primarily influence environmental protection. Using these results a company formulates its environmental policy and program. It can then build up its actual environmental management system and draw up an environmental statement for publication, containing a description of the environmental aspects of the site and the company's environmental principles and program.

In the ISO-system it is obligatory to publish only the environmental policy. A company can also publish a more detailed environmental report. An accredited body, called a verifier in EMAS-scheme and certifier in ISO-standard, makes an external audit and checks that the company meets the requirements of the system.

The top management of the company must commit to the principles and goals of the environmental policy and targets of the environmental program. It must also follow up to see how the management system functions and especially in view of the results of the audits start corrective actions, if these are necessary.

2.1. Evaluation of environmental impacts

A company should have knowledge about its emissions and significant environmental impacts in order to formulate adequate environmental policy and programme for its activities. Industrial companies calculate more and more environmental impacts by using

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