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ITINERARY FOR IMPLEMENTATION OF AN ENVIRONMENTAL MANAGEMENT SYSTEM AND ITS BENEFITS

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Abstract

This article treats the problem of environmental management system starting from definition and objectives stipulated according to ISO 14001. The success of implementation of the environmental management system consists in respecting its principles. It is described the role of employers' organizations in promoting environmental management systems. Also, there are described the implementation stages of an environmental management system in Romania. Each unrolled stage is synthesized and argued succeeding to catch the necessary essence of correct understanding by all participants to implementation process of environmental management system into an enterprise. There are accentuated the long term advantages of successful implementation environmental management system. The article ends with authors' conclusions and some recommendations from the specialists of Romania.

Key-words: environmental management system, objectives, principles, implementation, environmental quality.

1. Introduction

The issues discussed in the article aim to present the concept of environmental management system, principles and stages of its implementation in Romania. The importance of this system of implementation of environmental management is detailed based on the long-term benefits it offers. Environmental Management System is that tool that ensures continuous improvement of environmental performance, commercial viability of an enterprise by spiral covering of classic steps for planning and implementation therefore contributing to better management of the company. The problem chosen was approached by many professionals in the field and the author's intention is to clarify the concept of environmental management system and simplify its implementation itinerary in our country, suggesting some lines of approach, facilitating the understanding and acceptance of such system, both by the management company and the employees.

2. Definition and objectives of an environmental management system

The concept of management system occurred after 1975 and ISO-World Organization of Standardization has begun development of standards in quality management system. În 1987 au fost publicate primele standarde. There was a stage of revision and in 1994 was published standards ISO 9000/1994 series, well known and used for implementing and certifying quality management systems. Was published in 1996 and ISO 14001 environmental management systems.

Environmental Management System is a component of overall management system that includes organizational structure, planning activities, responsibilities, practices and procedures, processes and resources for developing, implementing, achieving and maintaining environmental policy analysis. An environmental management system is that management tool that is intended to ensure continued functionality and implementation of a plan or environmental management procedures and compliance with environmental objectives and targets. ISO 14000 series of standards was developed by the International Organization for Standardization in order to establish basic requirements for Environmental Management

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Systems. The purpose of ISO 14000 is to promote environmental protection from the point of view of socio-economic interests. ISO 14001 was completed in 2004 and is now implemented by companies throughout the world. It specifies requirements for an environmental management system to enable an organization to formulate a policy and objectives taking into account legislative requirements and information about significant environmental impacts.

To fulfill the Environmental Management Standards it is necessary the introduction of an *environmental management system (EMS)*. The composition of the system include: organizational structure, responsibilities, practices, procedures, processes and resources for determining and implementing environmental policy. Environmental Management System allows "*an organization to formulate policy and environmental objectives according to legal requirements and information about significant impacts on the environment*"³.

To implement and maintain in service a robust environmental management system, an enterprise needs to focus attention on improving environmental performance. Also, *the environmental management system* needs to establish, to review and revise periodically the company's environmental policy, objectives and programs originally established. As a result, the system includes among important objective:

- Recognition by all members of the company that environmental management is one of priorities;
- Establishing, maintaining and improving communications with internal and external stakeholders;
- The determination of legislative requirements and environmental aspects related to activities, products or services business;
- Involvement of the management and employees undertaking environmental protection, with clear tasks and accounting responsibility;
- Encouraging environmental planning for the whole life cycle of a process, activity or product;
- Establishing a process to achieve the set target levels of performance;
- Providing the necessary resources and further training to achieve performance levels chosen target;
- Environmental performance evaluation reported in the company's environmental policy, objectives and directions set respectively to improve their search where they record deviations;
- Establishing a management process audit and review of environmental management system to identify opportunities to improve the system and resulting environmental performance;
- Setting powers, authority and procedures that are expected to reduce negative environmental impact;
- Adopting basic principles to help guidance of future work on environmental liabilities.

3. Environmental management approach in terms of business

Globalization of environmental problems causing concern ever higher. Businesses are increasingly concerned to achieve and demonstrate sound environmental performance by controlling the impact of its activities, products and their environmental services. They conducted "audits" to assess their environmental performance. However, these audits alone are not sufficient to provide an undertaking that its performance not only meets, but will also meet future legal requirements.

Environmental management standards (such as EMAS website and series of standards ISO 14000) is a standard by which companies can measure their performance. Meanwhile,

³ S.R.EN ISO 14001, *Environmental management systems. Specifications and user guide*. (Romanian Institute for Standardization, Bucharest, November, 1997).

public opinion has become increasingly concerned about environmental issues are often reflected in consumer behaviour, expressing interest in products that are not harmful to the environment. Thus arose the eco-label that provides information about impacts on the environment, promoting low-impact products. Assess the impact of economic and social activities are having on the environment is achieved in two main directions:

- a binding which is to obtain the operators of opinions, agreements, operating assumptions with respect to authorized institutions on line environment. In this case the environmental impact assessment forms are covered by national framework environmental legislation and detailed national secondary and tertiary legislation in these areas.

- other, voluntary nature, by which traders, stimulated by some potential advantages, is committed to improve environmental performance. In this case the environmental impact assessment forms are covered by those standards (ISO 14000 series, Ecolabeling) a recognition that international, European and national level.

Integration of management systems has become a tool used by companies to achieve excellent performance levels. Employees and managers are often book on management standards as usual certification and verification methodology tend to focus on the need to achieve to meet certifiers audit documents. Employees feel seized by the need for additional documentation, which can generate long-term resentment and negativity. Limited resources of a company are often diverted to solving ascending bureaucratic aspects of environmental management at the expense of environmental management itself.

To achieve good results in the integration of a company management should focus on improving environmental performance and safety and health workforce.

Approach focuses on assessing corporate performance. When a remark or observation, analysis techniques are used to determine the cause because the basic problem that caused that. This investigation involves interviews and detailed documentation related to environmental management, including licenses and environmental permits, emissions, sewerage system, building and neighbourhood plans etc. Integration of management systems is intended to limit documentation management systems and focus on performance and continuous improvement.

4. Role of employers in promoting environmental management systems

Any employers' organization must be the promoter of a functioning market economy based on competition, creativity and social partnership. Organizations should function as resource centres for its members, providing information and training.

In the context of Romania's integration into the European Union's role is one of employers' organizations and more importantly, because they must support the Romanian companies (whatever their size) to adapt quickly to changing legislation and to meet European legislation. In this context the environment is of particular importance and organizations adapt their information activities, awareness and training to support business requirements related to implementation of EU environmental protection.

In Europe, awareness on environmental protection began in the '60s with understanding the effects it has pollution on ozone depletion and climate change (global warming). It was time they started to impose emission limits for certain pollutants and companies had to implement solutions to deal with environmental effects (so-called end of pipe solutions such as filters for certain pollutants, incinerators, etc.). In the '70s tried to optimize technological processes for them to affect the least environment. Occurred in the 80 environmental coordinators or responsible corporate environment. They have helped create environmental management because all their actions focused on environmental protection. Environmental legislation has grown increasingly more and emerged the concept of

environmental audit, referring in particular to verify the achievement of the legislation (which today we call audit compliance with environmental requirements of the permit).

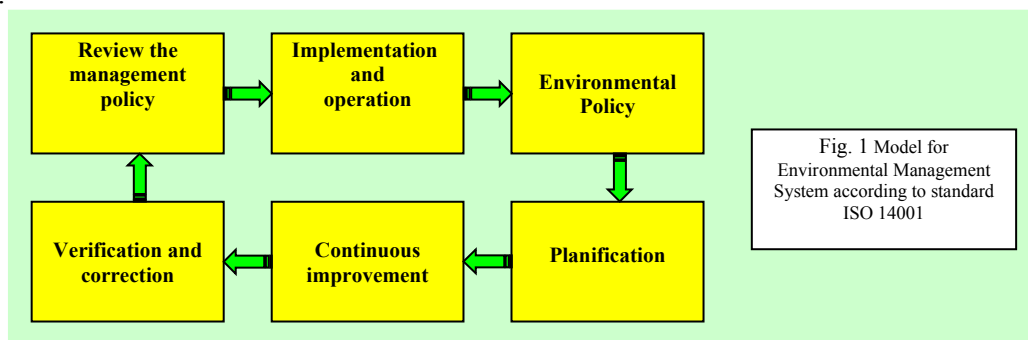
In 1993 ISO - International Organization began to develop what would become the best known and applied environmental management standard in the world: ISO 14001. Since its publication in 1996 of ISO 14001 are more than 36,000 global companies that have an environmental management system certified under ISO 14001. In Romania there are only 500 companies that have an environmental management system certificate. Therefore organizations promoting environmental management system certification, as a best practice for environmental compliance and to conduct environmental performance. Organizations have readjust structures to meet these requirements by setting up information centres and training for affiliated firms. These centres have the following objectives:

- economic information on national and European legislation on environmental protection;
- organization of training environment for companies in different industries;
- editing of publications on best environmental practices;
- promotion of projects for financing activities.

In the context of the Romanian Government considers priority environmental management systems in the Romanian firms, financially supported this work, organizations have the role of information centre and to prepare companies for implementation and certification in accordance with the requirements of ISO 14001. Role of employers is one very important because they must function as resource centres with tasks: information, training, preparation for access to funding, technical assistance for implementation of project financing.

5. Model of an environmental management system and principles concerning it

A possible model for environmental management system is shown in the diagram below.



The purpose of ISO 14001 "Environmental management systems. Specifications and user guide" is to support environmental protection and pollution prevention. The principles underlying the organization of a system of environmental management in a company are as follows:

A. *Defining environmental policy and responsibility.* A company must clearly define the environmental policy and to assume responsibility for the environmental management system.

B. *Environmental Policy Plan.* An organization must develop a plan that would ensure achievement of environmental policy.

C. *Implementation of environmental policy.* To ensure effective implementation, an enterprise needs to develop incentives and support mechanisms necessary to achieve environmental policy, objectives and directions concerned.

D. *Measuring, monitoring and evaluating performance.* An enterprise needs to measure, monitor and evaluate environmental performance.

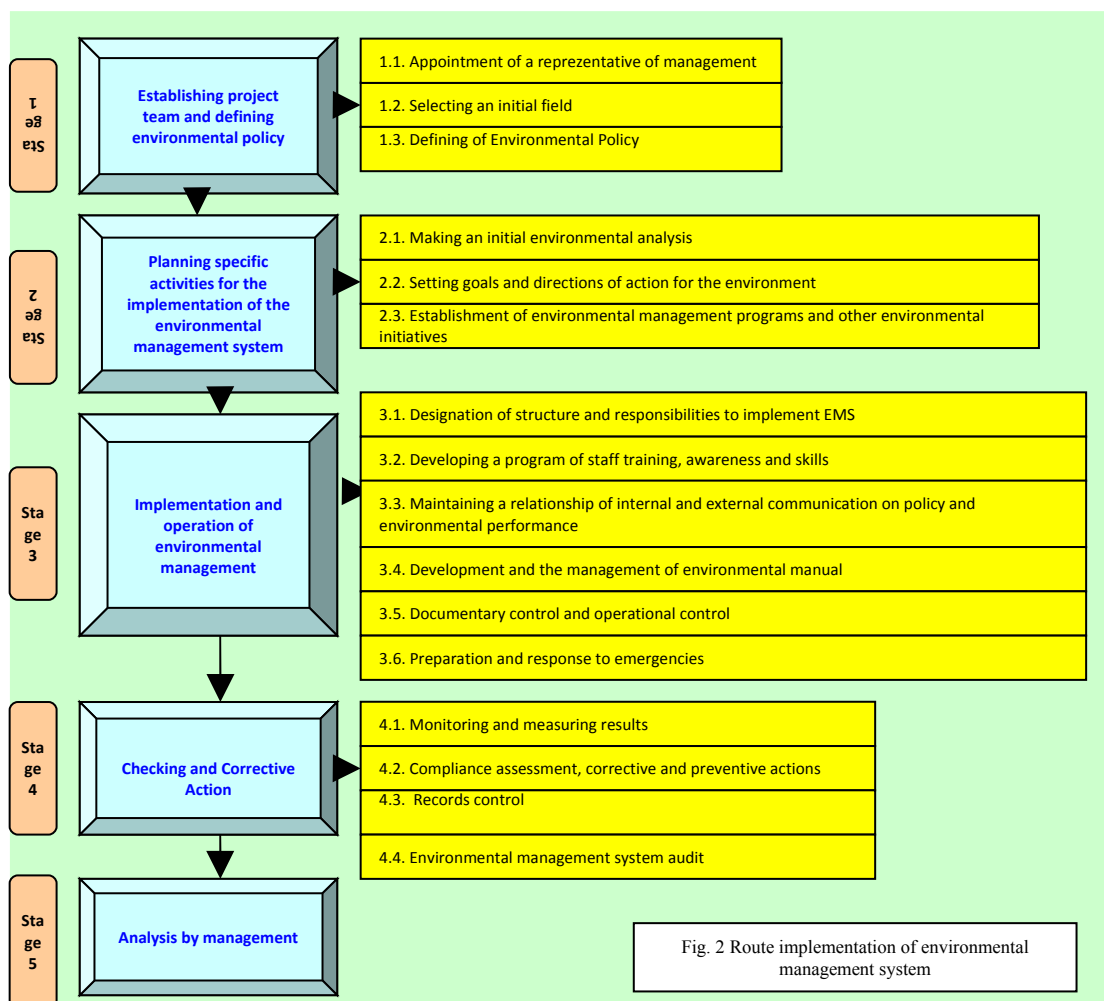
E. *Periodic reassessment of the system.* Management should review and assess the environmental management system at defined intervals to maintain its efficiency and continuous improvement.

F. *Improvement of environmental management system.* A company must harmonize continuous improvement of environmental management system to improve environmental performance at enterprise level.

By following these principles, environmental management system should be regarded as a solid organizational base, continuously monitored and periodically reviewed to provide a correct direction which aims at environmental activities of an enterprise, in response to varying internal and external factors. Presentation of principles, systems and techniques to implement *an environmental management system* are in ISO 14001 and ISO 14004. To improve environmental performance and the system of decision made by the management of the organizations, there were established appropriate instruments of assessment and action plan as: cost-benefit analysis, environmental audits, environmental impact assessment, environmental policy, voluntary agreements etc.

6. Stages of implementation of an environmental management system

Implementation itinerary of environmental management system is as follows:



Stage 1. Establishing project team and defining environmental policy

This step is attending three main activities, namely:

1.1. *Appointment of a representative of management or a manager of environmental management system and a committee of environmental management system.*

Manager Environmental Management System is mainly focused on: environmental planning, defining the organization's environmental policy, environmental management development programs, environmental management system design, implementation of environmental management, organization department environmental protection, personnel training, environmental department, design and management information system and documentation of environmental management, organization and supervision of environmental audit, assessment and policy implementation of environmental programs and for regularly monitoring and environmental management.

1.2. *Selecting an initial field* (section, factory, etc.) for the implementation of the management environmental in which it can be applied successfully and without disturbing normal activities.

1.3. *Defining environmental policy* by the management of the company will be accompanied by a clear demonstration of the decision to commit resources and to reward performance in support of this policy. Environmental policy statement associated with an environmental management system should include:

- The area covered by the policy and associated environmental management system;
- A commitment to comply with environmental laws and regulations;
- A commitment to continuous improvement of environmental performance;
- A commitment to pollution prevention.

Stage 2. Planning specific actions for the implementation of environmental management system

This step is the completion of three main activities:

2.1. *Making an initial environmental analysis* required by the selection of environmental issues. The purpose of this review is to make analogies between a specific environmental management system (according to the requirements of ISO 14001) and existing programs or systems. Specific features of the initial environmental analysis are:

- identification of significant environmental issues;
- identification of applicable environmental regulations and compliance of enterprise;
- identification of voluntary environmental commitments;
- evaluation of the preparedness for emergencies.

2.2. *Setting goals and environmental pathways.* The company must establish and maintain the documentation for the environmental management system, registered on *objectives* and *directions of action* for each level and relevant function within it. In setting or revising objectives⁴, a company must take into account: legally requirements or otherwise, significant environmental aspects, technological options, the financial, operational or business necessities, the views of stakeholders.

2.3. *Establishment of environmental management programs and other environmental initiatives.* The company must establish and maintain programs⁵ to target established objectives and directions. These programs include:

- Designation of responsibilities for achieving the objectives and guidelines targeted at each relevant function and level of business;
- The means and time to be achieved.

⁴ Objectives and directions concerned must comply with environmental policy, including the commitment to prevent environment pollution.

⁵ If a project covers new developments or new or modified activities, products or services, it will be modified in relevant points to ensure that environmental management applies to such projects.

Stage 3. Implementation and operation of environmental management system

Company management must determine and find financial resources and personnel, infrastructure and technology needed to establish, implement, maintain and improve environmental management system. In turn, this stage includes the following under stages, as follows:

3.1. *Choosing the structure and responsibilities to implement environmental management system.* The success of environmental management system implementation depends largely on implementation team designated by the management company and the credit it grants to the team. Implementation team with the management department of the company choose the managers responsible and designate their powers on hierarchical levels depending on their degree of competence and involvement in implementing environmental management system.

3.2. *Developing a program of staff training, awareness and skills.* The company must analyze and identify the learning needs of their staff through the organization of programs (training) that will be concluded by an assessment of their knowledge. Competency on the post is getting on staff qualifications, skills, abilities and experience in relevant field. Through these procedures, the company stresses the importance of the conscious aspects of the implementation of an environmental management system focused on:

- The importance of compliance with environmental policy, procedures and requirements of environmental management system;
- Significant environmental aspects and social impacts, actual or potential, relating to the work and benefits to the environment by improving individual performance;
- Tasks and responsibilities associated with achieving compliance with the requirements of environmental management system;
- The possible consequences of deviations from specified products.

3.3. *Maintaining a relationship of internal and external communication about policy and environmental performance.* The purpose and benefits of such communications may include⁶:

- demonstrate the commitment of the organization and its efforts to improve environmental performance and the results of those efforts;
- increasing awareness and encouraging dialogue about environmental policy, environmental performance and other relevant concerns/achievements in this area;
- receiving, analyzing and sending replies to questions, suggestions or complaints by stakeholders;
- promoting continuous improvement of environmental performance.

3.4. *Development and the administration of environmental management manual.* All information collected from the beginning of implementation, completed stages, the information collected and analyzed the results and conclusions derived from the use of environmental management system should be recorded in a manual environment. The content of environmental manual should be, as follows:

- Documents relating to environmental policy, objectives, targets;
- Description of the area and components of environmental management system, their interaction and connection with other documents of evidence;
- Documents and records required by ISO 14001;
- Documents and records set by the management of the company as necessary to ensure planning, operation and effective control of processes related to environmental issues.

3.5. *Documentary control and operational control.* All documents created and used for recording transactions related to the management of environmental management system

⁶ Ovidiu Țuțuianu, *Evaluation and reporting environmental performance. Environmental indicators*, (Publisher Agir, Bucharest, 2006), 219.

should be controlled effectively by: developing a particular form of document, attributions of analysis and approval documents for people specialized in this way, maintaining an efficient distribution system.

Operational control provides full control of the operations and activities associated with identified significant environmental aspects. This type of control can be effectuated by several methods such as procedures, work instructions, measurements, evaluations to determine how the operating criteria are met, etc.

3.6. *Preparation and response to emergencies.* Companies must establish and maintain one or more procedures to identify possible emergencies or accidents with environmental implications, including mode of action in such situations. Verification of the procedures will be regularly carrying out through exercises and simulations held in places determined by the contingency plans.

Stage 4. Checking and corrective action

This takes into consideration attending more under stages compliable with legal requirements and other requirements. These under stages are:

4.1. *Monitoring and measuring results.* It uses procedures based on quantitative or qualitative measurements aimed at monitoring the implementation of activities under the environmental management system compliable with environmental requirements that provide the necessary control data, performance evaluation system of environmental management. On this occasion, by storing information and their analysis, it can be identified those activities that require corrections or improvements during the implementation of environmental management system.

4.2. *Compliance assessment, corrective and preventive action.* Regular assessment of compliance with legal requirements and other requirements shall be in accordance with the commitment of the environmental policy. To achieve this, it may be used the following methods: analysis activities, documentary analysis, routine analysis, interview, inspection of facilities, audit. All information from the regular assessment shall be kept and analyzed carefully, because they could be used to take corrective and preventive actions. In this regard, the implementation team should:

- analyze and correct non-compliance or failure to comply with certain requirements;
- analyze and determine causes, thus establishing corrective action;
- assess the need to implement preventive actions and to record it;
- examine the efficacy of corrective and preventive action taken.

4.3. *Control of the records.* On this way, it is created a documentary archive maintained both on paper and on tape, which includes the following categories of information:

- Compliance with legal requirements or other requirements;
- Details of non-conformities, corrective and preventive actions;
- Information about the characteristics of environmental products;
- Evidence of the achievement of objectives or targets concerned;
- Permissions, licenses or other legal authorization;
- The results of inspections, operational controls, audit (s) of environmental management system and management reviews.

4.4. *Environmental management system audit.* This is done by competent auditors, objective and impartial, with the assistance of technical experts, selected from the company or outside it. Audit results recorded in the audit report includes among others: implementing and enforcing compliance or non compliance with legal requirements on environmental management system, identify corrective and preventive actions which might be taken.

Stage 5. Analysis by the management team

After running the above four steps and gathering the necessary information resulting from preparation of environmental audit report, the management company shall conduct a detailed analysis on the implementation and operational maintenance of environmental management system.

7. Benefits of implementing an environmental management system

Companies that implement and maintain a system of environmental management have the following advantages:

1. By integrating environmental management with quality management system and labour protection systems in a company, they benefit from some economies in costs of environmental management.

2. The strategic environmental⁷ management skills developed, the company achieved an improved environmental performance at lower costs

3. The clear allocation of tasks responsible, through the establishment of monitoring systems, to ensure adequate operational controls, by minimizing energy consumption and waste, company acquires a general management and a much better environmental performance. As a result of minimizing waste and energy efficiency operating costs are reduced. By increasing energy efficiency, the company achieved high rates⁸ of return on investment.

4. By jumping graduated from an approach of conformation to environment to one which requires a strategic environmental planning from top management, the company is prepared for future trends in environmental regulations.

5. By reducing demand for natural resources for the company's activities, by reducing the risk of environmental liabilities and practice a proactive management, the company acquires more long-term viability.

6. Companies that have implemented an environmental management system are favoured by investors, creditors, giving them lower interest rates, some state organizations have exemption from payment of certain taxes and environmental requirements, all contributing to a reduction of capital costs and better access to capital markets. Also good access to different market segments can be recorded by following the demonstration and practice of responsible commitment to the environment (according to ISO 14001), being an essential condition for achieving and maintaining their business.

7. Through an environmental management approach that encourages dialogue and responsiveness to the concerns of all parties involved, the company develops the best public relations with the authorities and community.

8. Conclusions

In conclusion, the achievement of milestones on the proposed route all or only a certain portion of the activities and processes taking place in business. The implementation and operational maintenance of a system of environmental management bring long-term benefits for the company and this is not only the author's opinion, but also of many environmental specialists. As a result, we plead for implementing and maintaining environmental management system in all companies that want to improve business and the environment. Widespread dissemination of concepts specific to environmental management

⁷ Includes anticipating future environmental requirements and still identify pollution prevention opportunities and not simply react to the law.

⁸ Rates which often exceed the rates that the company obtains on the normal capital market.

system is our main target in the next period and this will be done through conferences, presentations, scientific communications, talks etc.

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