International Journal of Advanced Science and Research
ISSN: 2455-4227, Impact Factor: RJIF 5.12
www.allsciencejournal.com
Volume 1; Issue 9; September 2016; Page No. 23-26

Environmental management systems health & safety

Gurcharan Dass

Chemistry Department, Bharat Group of Colleges, Sardulgarh, Mansa, Punjab, India

Abstract
Environment, Health and Safety (EHS) includes the Occupational Health and Safety; Public Health, Safety and Well-being and Environmental Health and Safety. An EHS Management System (MS) is a management tool that defines responsibilities, and enables compliance with EHS Policy, and relevant laws and standards EHSMS provides a common framework to promote self regulation of EHS. The principles of EHSMS includes the Commitment and Policy Principle; Planning Principle; Implementation principle; Measurement and Evaluation Principle; Review and Improvement. The paper discusses the scope, objectives and structure of EHS management system in the light of the development scenario in various organizations.

Keywords: EHS, MS, policy

1. Introduction
We have happily entered into the new millennium passing through the profound corridors of two thousand years in the world's history. Human beings come from the environment, live within the environment and remain as an integral part of the environment. The environment, which nurtures human beings, is in peril. The major threats to earth's environments include unplanned population growth, decline in the food harvests, land erosion, land slide, exhaustion of fisheries, shrinking of petroleum reserves, deforestation and extinction of species, global warming and climate change due to greenhouse effect, loss of protective ozone layer of the stratosphere, acid rain, air, water and noise pollution, toxic wastes, indiscriminate use of non-biodegradable pesticides, overpopulation of antibiotics, excessive release of toxic synthetic chemicals and soon.
Rapid industrial and technological development had made our life comfortable, but as a side effect it has led to exploitation of environment. People at large are now concerned about the hazards of population, which disturb the physical as well mental health of individuals. People suffer from headache, disturbed sleep, insomnia, stress, tension and even schizophrenia because of environmental pollution.
For the above reasons the "Environment Management System" (EMS) was started and various action programmes were taken in different parts of the world. It aims at developing awareness and knowledge about environmental issues and helping individuals to develop proper attitudes and skills in this regard and also enlisting their participation on protecting the environment as well as their health and Safety.
Environment, Health and Safety (EHS) is a broad concept. In its broadest context, it includes the following contents:

- Occupational Health and Safety;
- Public Health, Safety and Well-being ; and
- Environmental Health and Safety.

Our discussion has been focused on the last point i.e. Environmental Health and Safety.
Environmental Health & Safety Management System (EHS-MS) is a management tool that defines responsibilities, and enables compliance with EHS Policy, and relevant laws and standards EHSMS provides a common framework to promote self regulation of EHS.

2. Principles of EHS-MS, EHS policy and guiding principles
The principle of EHS-MS includes the following: Commitment and Policy Principle, Planning Principle; Implementation Principle, Measurement and Evaluation Principle; Review and Improvement.
The institution has to adopt a comprehensive EHS policy that describes and communicates the Institute's commitment to excellence in environment, health and safety stewardship. In particular, The Institute's EHS policy commits the Institute to Minimizing adverse EHS impacts, Achieving and maintaining compliance with EHS regulations, Achieving a high standard for accountability for EHS stewardship, providing educational opportunities, and Continually improving EHS performance.
The Working Group and the Ad Hoc EHS Subcommittee of the Institute Council on Environment, Health and Safety developed and endorsed the policy. The policy was then presented to the Academic Council which is chaired by the Institute President or like that and serves as the President's cabinet for Institute-wide policy making.
The EHS Policy is communicated to the member of the institution through a variety of means which should have described more fully in the EHS Communications Plan.
The EHS policy is reviewed and modifications to the policy are considered periodically as part of the overall EHS -MS management review process.

3. Objectives of EHS-MS
Every institution should have a duty to implement a comprehensive and integrated Environment, Health and Safety Management System (EHS-MS). A highly collaborative effort that draws on the leadership and expertise of faculty, researchers, students, administrators, and staff, the EHS Management System is helping to reshape how all members of the institution view their environment, health, and safety responsibilities, carry out institution's EHS

commitment in their day-to-day activities, and assess institution's performance against its goals.

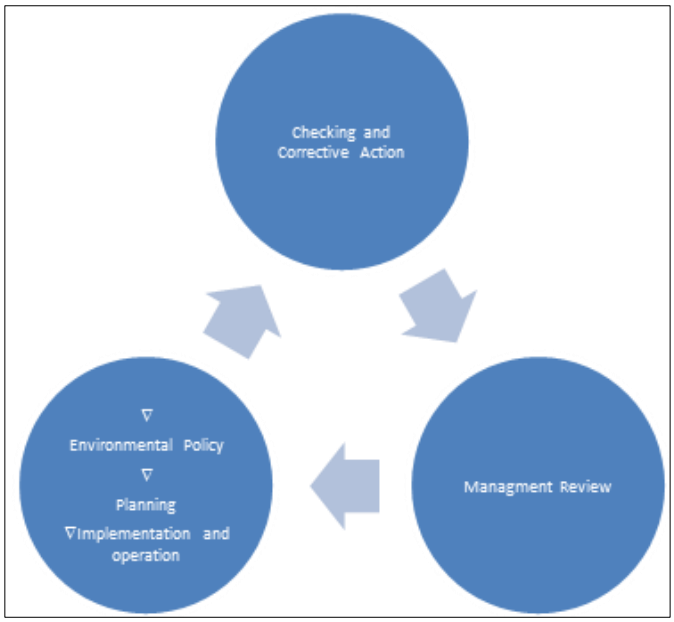

Fig 1

A health and safety management system helps us take control. It sets out how to handle key activities, so that everyone knows the right way of doing things. It also lets us apply a consistent, structured approach to tasks and see what's working well, and where we could make improvements.

Founded on the principles set forth in the institution's EHS policy, the EHS Management System is a structured, organizational approach to environment, health and safety management, specifically designed to drive continual EHS performance improvement. The EHS Management System establishes a set of management tools, principles, processes, and procedures that enable institution to reduce its EHS impacts while simultaneously advancing the Institute's core research and education goals.

Central to the design of the Management System is a continual cycle of planning, implementing, reviewing, and improving the EHS processes and practices at a particular institution. A hallmark of the Management System is its use of automation and systems integration to preserve the independence of research, while providing the key and timely EHS information required for institutional oversight and accountability.

4. A systems approach to EHS-MS

By creating a well-defined and structured EHS Management System embedded in the daily activities of the Institute, the institution can built an infrastructure that ensures long-term success and sustainability in meeting and surpassing its environment, health and safety obligations. Each component of the EHS Management System is designed to work interdependently in an integrated fashion that continually reinforces the common objective of improving EHS performance.

To ensure the organizational sustainability of the EHS Management System, all components of the Management System, such as Policy and Objectives, Planning, Training, Inspections, etc., have been designed and established as formal systems, integrated into on-going academic and facilities operations. These are evaluated on a regular basis to identify areas for improvement.

One of the central principles of this system and the ELIS policy is the commitment to reflect the institution's long held values of excellence not only in its' research and teaching, but also in its' operations. This management system provides improved institutional capacity and a accountability for achieving and maintaining compliance with the institution's high standards for EHS performance, in its departments, laboratories, and other centers, while simultaneously retaining the independence of research and teaching. The EIIS-MS also creates a more sustainable campus by encouraging the incorporation of positive initiatives into activities, such as reducing wastes and toxic materials, preventing pollution, and conserving and reusing resources.

5. Elements of EHS-MS

The EHS-MS system has the Following basic elements. EHSMS should be a Management Commitment via EHS Policy Proclamation; It should have an under standing of regulatory Requirements. The other elements include conduct of hazard and risk assessments Risk Management Strategy ; well defined roles and responsibilities; Compliance Goals and Targets; Training and Information to stair, Analysis of failures and corrective actions, Implementation and Track Action Plans and Auditing (internal and/or external).

6. Role of institutions regarding EHS-MS

The institution may play so many roles regarding the improvement of the EHS as briefly mentioned below:

- Oil and Gas-Sectors must have ownership;
- Energy-Random audits by government;
- Health-Programmed audits by the institution;
- Building and Construction-Reporting on trends
- Tourism-Higher Committee is to encourage and coordinate EHS implementation
- Transport-Developing EHSMS at sector level encourages EHS awareness throughout the community and Industry.

7. The EHS 'VISION'

The vision of EHS is to include all institutions developing EHS-MS (2008-2010) and all institutions implementing EHS-MS (2010-2012).

The goals are:

a) Minimizing pollution and waste,
b) Safer workplaces,
c) Healthy environment,
d) Sustainable lifestyle,
e) Sustainable economy,
f) Sustainable development,
g) 2020 – EHS Culture,

Everyone in the institution will be considered responsible for EHS-MS, besides the government.

7. Obligations and benefits of EHS-MS

The institutions have a legal responsibility for the health and safety of everyone affected by them. This includes employees, subcontractors, visitors, customers and even members of the public affected by other products or services.

They are also responsible for the environmental impact of their institution.
Carrying out regular risk assessments is a key part of identifying and controlling health and safety hazards.
The institutions also have a health and safety policy, If the institution has five or more employees, the policy must be in writing.
An effective health and safety management system can help the institutions meet these and other legal obligations.
The general benefits of EHSMS are as follows:

- Encourages economic diversity and capacity building;
- Contributes towards sustainable development, lifestyle and economy;
- No costs imposed on future generations;
- Minimizes public financial legal liabilities;
- Improved quality of environment;
- Improved quality of life;
- Improves government efficiency.

8. How to develop an EHS-MS?
When planning health and safety management system, and before writing policy statements, conducting risk assessments and developing safe systems of work, the institute will need to be fully aware of two things.

1. The categories of people that the institute has a duty to protect.
2. The health and safety regulations that apply to the institute.

All employers have a duty to protect its
Employees, Employees with known disabilities, Trainees/agricultural students/temporary workers, Visitors and the general public, contractors and Trespassers.
The points to address for each of these categories are;

8.1 Employees Before asking an employee to carry out a task
a) You must take account of their capabilities
This should include consideration of the employee's age, sex, physical strength, size, experience and competence, in relation to the tasks that you will expect them to perform.

b) You must provide them with adequate training
When they are first appointed.
As and when there are changes in procedures, systems of work etc.
On a routine refresher basis.

c) You must provide them with information regarding: The risks to health and safety associated with their Jobs
The health and safety control measures in place.
Their obligations regarding health and safety.
The sale systems of work to be observed.
The accident, fire and emergency procedures.
The results of any monitoring and health surveillance.

8.2 Employees with known disabilities in addition to the points regarding employees.
You must ensure that employees are not asked to perform tasks or handle substances that may. For them, present particular risks. Examples of this would be a pregnant female worker or a known asthmatic to administer prostaglandin. Other examples of disabilities that may be relevant to workers include dermatitis, a history of back or joint weakness, hyper sensitivity to certain antibiotics and respiratory problems.
You may be obliged to implement a staff health surveillance scheme. This will depend on the regulations that apply to you. Even when it is not a specific requirement, it is good practice to implement a health surveillance system anyway. This should include pre-employment health checks (questionnaires) and on-going records of employee absence, sickness and complaints or requests to do with health and safety. This can be used to identify existing disabilities and also to spot any health effects associated with particular tasks and individuals. Respiratory disease would be a typical example

8.3 Trainees / students / temporary workers
Because of their inexperience and unfamiliarity with your work environment trainees are a particularly high risk group.

- You must provide the same degree of protection as for full employees.
- You must stipulate the special provisions made for the trainees regarding your systems of work etc.
- You must be able to demonstrate, on record, the point at which trainees no longer require special provision (i.e. are deemed to be competent) for each system of work.

8.4 Visitors and the general public

- You have a duty to ensure that your premises and activities do not present a risk [o visitors or the general public.
- You should not leave visitors unaccompanied or allow them access to hazardous areas un-necessarily.
- You should ensure that appropriate directions, instructions arid safety notices are displayed.
- You must ensure that areas such as changing rooms, toilets, showers and offices that may be used by visitors are kept as clean and tidy as practicable.
- You must ensure that visitors are provided with sufficient safely information, for example. reading dust, noise, fumes, electrical safety and fire precautions.
- You must ensure that sufficient protective clothing is available for use by visitors and that it is kept clean and in good order.
- You should have a plan of the premises available for the emergency services (in the event of fire) which shows the positions of hazards such as high voltages, gas cylinder, dangerous chemicals, slurry tank covers and dangerous animals (e. g. boars).
- You must consider your impact on the general public with regard to environmental hazards such as dust, noise and fumes and also physical hazards such as concealed farm exits, heavy works traffic at certain times and mud on the road.

8.5 Contractors
Although to some extent you share health and safety responsibility with contractors it will remain primarily with you.

You have a duty to ensure that the contractor is not exposed to h as a result of your acts or omissions and that your employees are not exposed to hazards as a result of the acts or omissions of the contractor.
The points regarding visitors will also apply to contractors. in addition.

- You must ensure that all contractors are competent and that they and their equipment comply with statutory provisions.
- You must ensure that contractors are fully informed of the hazards and risks to health and safety which they may be exposed to.
- You must inform contractors of the measures that you have taken and of those that they must take, in order to ensure compliance with legislative requirements and your systems of work.

8.6 Trespassers

The law regarding trespassers is different in each country but it is generally the case that unless you are certain that trespassing will never occur. You must take steps to offer some protection against risks which you know to be present.

9. Using EHS-MS

Management systems generally follow a "plan-do-check-act" model:

Plan: Identify the key legal requirements and establish your overall policy.

Do: Decide what procedures you need and implement them.

Check: Set targets and objectives, and assess whether you are achieving them.

Act: Take steps to continually improve the system. For example, you might want to update procedures or provide better training if you have problems in a particular area.
In the short term, introducing a new management system involves extra work and costs. Employees may find it difficult to see what's in it for them, and resist the changes involved. From the start, top-level management commitment and effective communication with employees are essential parts of making it happen.

10. Conclusion

The level of effort applied to EHS-MS must be commensurate with the nature and extent of existing potential hazards and the potential risks and adverse consequences to workers, the community and the environment if those hazards were to be realized.

11. References

1. Koontz, Harold, Weihrich, Heinz. Essentials of management, Tata McGraw Hill Publishing Company Limited, New Delhi. 2003.
2. Singh, Savindra. Environmental geography. Prayag Pustak B hawan, Allahabad. 2004.
3. Sinha Dasgupta R. Education at the dawn millennium, New Central Book Agency, Calcutta. 1999.
4. Zaidi SM. Modern teaching of environmental education, Anmol Publications Pvt. Ltd, New Delhi. 2004.