

DEVELOPING AND IMPLEMENTING SUCCESSFUL ENVIRONMENTAL TRAINING

Introduction

One of the most important factors in developing a successful Environmental Management System (EMS) is the level and quality of training provided to both operational personnel and staff. Environmental training is necessary, not only to satisfy the requirements of ISO 14001 and assure procedures are implemented, but also to bring about a cultural change within the organisation that will make sound environmental practice part of "doing business". However, experience has shown that this is one of the areas least well implemented. The following paper will provide details of both the type of training required for different groups within an organisation and the different methods that can be employed to efficiently impart knowledge to the target audience.

The Audience and Their Needs

The first step in developing a training program for any company is to identify the target audience. It is only once the target audience is clearly identified that an appropriate and relevant training program can be developed. In determining the audience, two main factors need to be considered:

1. the functional levels within the organisation (ie senior management, line management, supervisors, operators);
2. any special duties or functions personnel may fill within the EMS, or to control environmental risks (eg. emergency response, hazardous material management, internal auditing, EMS maintenance etc.).

Once each functional level is identified, the type of information each group will require should be determined. The specific information each group requires will depend on their duties and their responsibilities within the EMS. As these duties will vary, different information will be required by each group.

The training required generally falls into two categories. The first is general environmental awareness training and the second is what may be termed "skills" training. The following table provides some of the more common topics covered under the two forms of training:

Environmental Awareness	<ul style="list-style-type: none"> - Company Environmental Policy - Overview of the EMS - Environmental risks faced by the organisation (ie. EMS Environmental Aspects) - General actions and programs being taken by the company to control environmental risks - Effect on the environment from pollutants that maybe emitted by the company - General responsibilities of the individual within the EMS (“what we want you to do”) - Overview of environmental legislative framework in the particular jurisdiction/s the company is operating in - Legislative responsibilities and liabilities (of both the company and the individual)
“Skills” Training	<ul style="list-style-type: none"> - Hazardous material storage and management - Emergency spill response - EMS auditing - Environmental risk identification - Hazardous waste storage transport and disposal

In order to assign training to the various groups, it is often useful to list each group and the types of training required in a matrix. An example of this is shown below (NOTE: this is only an example, the actual attendees at each course type will strongly depend on an organisation’s operations and management structure).

Group	Training Modules				
	General Environmental Awareness Module	Operating and Emergency Procedures	EMS Auditing	Environ. Risk Identification	Haz. Material Manag. & Disposal
Senior Management	x				
Line Management	x	x			
Supervisors	x	x		x	
Employees and contractors	x	x			

Group	Training Modules				
	General Environmental Awareness Module	Operating and Emergency Procedures	EMS Auditing	Environ. Risk Identification	Haz. Material Manag. & Disposal
Warehouse personnel	x	x			x
Internal Auditors / EMS Development Personnel	x	x	x	x	

You will notice that in some cases, the matrix has assigned the same topics to different groups. However, even when the same subject is provided to different groups, the level of detail may vary considerably. For example, senior management should have a fairly good knowledge of the EMS and its function, while operators only need to have a fairly basic understanding of the EMS and its role of identifying and managing environmental risks.

In some organisations, particularly smaller companies, training requirements for senior and line management may be the same and a single package of training may be sufficient. The exact type and level of training required will depend upon the company, the operations it conducts and the management structure within the company. The general rule is to minimise the number of packages required, while still providing personnel with the training they require to carry out their duties.

A major group very often overlooked are contractors operating on a company's site or carrying out duties on behalf of the company. This group is becoming more important as time goes on, as many companies are contracting out major functions on their sites, such as maintenance. In many instances, contractors carry out similar duties to a company's own employees and may have similar environmental impacts. Therefore, this group should be treated the same as employees and provided with similar training, as indicated in the above matrix of possible training packages.

Development and Implementation of Training Packages

Once the various groups and training packages have been identified, the training packages can be developed to suit the company's operations. The development of training packages can be carried out by internal personnel, or with the assistance of external resources such as consultants. In some instances, for example the internal EMS auditor training, companies will normally need to source external training courses. In other instances, internal resources may be sufficient to develop the training material. This is particularly true for the general environmental awareness course, which should be tailored to the company's operations and environmental risks. If external resources are to be used for development of any training material, it is essential that site personnel

have a significant input and the consultants be familiar with the company's operations and environmental risks.

One of the major objectives of environmental training, as with any training, is to ensure that attendees not only understand the material, but the material is retained so it can assist trainees when required. One method to achieve this is to run regular refresher training sessions. The period between refresher courses will depend on the complexity of the training material and how directly relevant it is to the person's day-to-day duties. The more complex the training material and the less relevant to their daily duties, the more frequent refreshers should occur. For instance, training on the Environmental Policy and the EMS may not be directly relevant to many operators. Therefore the retention of this material is often found to be poor.

There are a number of methods of presenting information to staff and employees, each of which has its own benefits and drawbacks. The following table lists some of the more common methods available.

Training Method	Benefits	Drawbacks
Class Room	<ul style="list-style-type: none"> – Better able to focus on the training material. – Able to cover large number of topics and show any relationship between each topic. – Good for look at the larger issue. 	<ul style="list-style-type: none"> – May not suit some operational staff who are uncomfortable with classroom training. – May not be ideal for persons who have English as a second language. – Requires a significant number of people to be off-line for an extended period. – Often requires an experienced trainer or suitable person to present the material.
On-the-job	<ul style="list-style-type: none"> – More personal and interactive, often one-on-one. – Very good for training in operational procedures. 	<ul style="list-style-type: none"> – Not ideal for less practical training, eg. training in EMS, legal issues, etc.
5 minute Tool-box or pre-shift meetings	<ul style="list-style-type: none"> – Can be carried out regularly. – Can be presented by supervisors or team leaders (greater level of trust between presenter and trainee). – Can cover a large number of topics overtime. – Can initiate discussion amongst trainees. – Little preparation or resources required during presentation. – Does not disrupt normal business. 	<ul style="list-style-type: none"> – Not suited for complex topics. – Not suited for material requiring longer than several minutes. – Can only focus on one topic at a time. – Presenter may not be able to answer all questions during session.

Training Method	Benefits	Drawbacks
Posters	<ul style="list-style-type: none"> - Does not disrupt normal business. - Can be distributed company wide. - Does not require significant resources to develop or reproduce. - Can cover a wide range of topics. - Can be produced in several languages. 	<ul style="list-style-type: none"> - May be ignored by workers. - Message may lose impact overtime.
Newsletters	<ul style="list-style-type: none"> - Does not disrupt normal business. - Can be distributed to all employees. - Does not require significant resources to reproduce. - Can cover a wide range of topics. - Can be produced regularly. - Can be produced in several languages. 	<ul style="list-style-type: none"> - May be ignored by workers.
Practical sessions	<ul style="list-style-type: none"> - Provide trainees with hands-on experience 	<ul style="list-style-type: none"> - Requires personnel to be taken off-line for a period of time.

In order to cover all the topics required and maximise the retention rate of material, it is often necessary to utilise several of the training methods detailed in the previous table. Typically, this will require the development of an environmental awareness course for presentation in a classroom environment. Individual topics within the course can then be reinforced through toolbox sessions, posters, newsletters or a combination of these.

On the job training is the most successful means of training personnel in operational procedures and work instructions. When the operation is more complex, additional formal training can also be utilised. In these instances, operational training is best developed and provided by internal personnel, provided resources are available. External training courses are ideally suited for training internal personnel in skills such as environmental risk identification, EMS auditing and the development and maintenance of the EMS. Practical sessions are essential when training personnel in emergency response. When provided along with brief classroom training, they are found to be extremely effective in supplying personnel with the necessary information they require to effectively and safely respond to emergencies.

Assessment of Training Effectiveness

Finally, once the training has been provided, it is necessary to assess how effective the training has been. Methods of assessing effectiveness will vary, depending on the training material and mode of delivery. Formal classroom sessions are often assessed by questionnaires provided to trainees following the session. This method can also help to reinforce points made during the training. Brief interviews during internal EMS

audits can also be used to assess employees' knowledge of environmental issues and operational procedures relevant to their workplace. The effectiveness of training in operational procedures are best assessed by the trainees' immediate supervisor, typically by observing the trainees in the workplace and determining how well the training is being applied. The effectiveness of emergency response training should be assessed during regular emergency response drills. Additional training, or changes to procedures can then be carried out based on the results of the drills. The assessments can then be used to determine if additional training, or changes to existing training is required.

Vic Natoli
Principal Consultant
V&C Environment Consultants Pty Ltd
03-9306-7888