

4.4.2 TRAINING, AWARENESS, AND COMPETENCE

PURPOSE AND BENEFITS OF EFFECTIVE TRAINING

The overall purpose of training in ISO 14001 is to develop the awareness and competence of personnel in the knowledge and skills required to plan, implement, maintain, operate within, and improve an EMS.

Training programs often fail to deliver desired results because the sponsor has not clearly defined the purpose of the training, or even determined whether it is needed. Training programs also may fail because there is insufficient support or encouragement 'back on the job' from supervisors, co-workers, or the organization for implementing the new knowledge, skills, or behaviours learned by a participant. Unless the new know-how is transferred to the job, makes a difference to the performance of the individual, and has an impact on the individual's department, the facility, and ultimately the organization, training is, for the most part, wasted. This, unfortunately, is the fate of many efforts to train personnel. The result is an immense loss of time, effort, and money, and an increase in frustration.

It is not practical in this lesson to delve deeply into training needs assessment, course design, delivery, or evaluation. But it must be recognized that these are critical contributors to training that is effective and has an impact back in the workplace.

Training Needs Identification

ISO 14001 states that an organization shall identify:

ISO 14001 4.4.2 TRAINING, AWARENESS, AND COMPETENCE says:

The organization shall identify training needs. It shall require that all personnel whose work may create a significant impact upon the environment has received appropriate training.

It shall establish and maintain procedures to make its employees or members at each relevant function and level aware of:

- (a) the importance of conformance with the environmental policy and procedures, and with the requirements of the EMS;
- (b) the significant environmental impacts, actual or potential, of their work activities and the environmental benefits of improved personal performance;
- (c) their roles and responsibilities in achieving conformance with the environmental policy and procedures and with the requirements of the EMS, including emergency preparedness and response requirements;
- (d) the potential consequences of departure from specified operating procedures

Personnel performing tasks which can cause significant environmental impacts shall be competent on the basis of appropriate education, training, and/or experience.

- Activities that may have a significant impact on the environment
- The awareness, knowledge, skills, and competence needed to carry out these activities

- The training needed to acquire the required level of awareness, knowledge, skills and competence.

This implies that a desired outcome for the training must be defined. In other words, whoever is calling for training to be done must specify the knowledge, skills, competence, and/or change in attitude and behaviour needed to achieve a required level of performance. The 'training gap' – the difference between the present situation and the desired level of competence – must be filled by a suitably designed program of instruction or experience.

Various techniques are available for conducting training needs assessments. All the best ones involve both the sponsor of the training (i.e., usually a management representative), and a sample of prospective participants (i.e., 'targets' or subjects for the training). In this way, both prescriptive needs (i.e., those specified by the sponsor), and motivational needs – those desired by the participants – can be addressed. One of the main challenges for a course designer is to satisfy both these types of needs, once identified.

Operational (Job Task) Analysis

Sometimes it is helpful to break down a job into its component responsibilities, activities, and tasks in order to identify the specific knowledge, skills, and competence required. Operational analysis, also called job task analysis, is a method to 'deconstruct' an operation into its component parts. Full participation by those whose jobs are being analysed is essential for a quality outcome. The process involves a stepwise analysis of the sequence of tasks needed to carry out a piece of work. In the context of

ISO 14001 requirements, the focus will be on jobs associated with significant environmental aspects, i.e., those that can have an impact on the environment. Examples include personnel in:

- The department responsible for waste treatment
- Preventive maintenance of equipment that could fail causing environmental impacts
- Inspection for leak prevention of chemical and fuel storage tanks, transfer lines, valves, pumps, and flanges
- Environmental sampling and laboratory analyses
- Emergency response
- Investigating environmental incidents
- Implementing corrective and preventive actions
- Hazardous materials handling.

TRAINING, AWARENESS, AND COMPETENCE

Training is useful only if it improves environmental awareness, knowledge, and understanding, and the competence of participants when they return to their jobs. In general, it is true that by increasing appropriate knowledge, and an understanding of how that knowledge is applied in the 'real world', the level of awareness, consciousness, and ability improves. Only when a person becomes aware of the work practices that they can use to help protect the environment, will they act consciously and consistently to implement those practices. When a person understands why a procedure is important to the environment, they will be much more likely to follow it.

Awareness is a basis of self-motivation; because once awareness is attained by employees, less supervision and monitoring are needed from management.

The next step, beyond knowledge, awareness, and understanding, is competence, wherein a person demonstrates the ability and appropriate judgement to apply the know-how and skills they have learned, and can consistently carry out their work to a higher level of achievement. A goal of all training programs associated with ISO 14001 should be to produce improvements in competence.

Designing a Training Program for ISO 14001 EMS

Once training needs have been clearly identified, it is possible to begin to design a tailored program of training. 'Off-the-shelf' or 'canned' training programs are rarely suitable without being customized to the needs of each target group.

Prospective participants in the training should be involved early in the process of course development to help ensure the relevance of the content and the mode of instruction. Clear, concise and, when possible, quantified learning objectives must be established for each segment of the training, including:

- What each participant will be expected to be able to DO when the training is over, i.e., a measure of accomplishment based on activity
- Under what conditions they will be expected to accomplish the tasks (i.e., with what background information, tools, or assistance)
- The required level of performance, knowledge, skill, or competence.

Participants in every training program should be carefully selected so that they have the background knowledge, experience, and skills needed to benefit from the new information they will acquire, and the opportunity to put their new skills and knowledge into practice back on the job. Attendance at workshops, seminars, or any kind of training by individuals with neither pre-requisite knowledge nor a motivating purpose for learning or chance to apply the information in their work will be a drag on the course and on the rest of the participants.

ISO 14001 TRAINING – THE BOTTOM LINE

Requirements That Affect Everyone

Everyone in an organization implementing ISO 14001 EMS must be made aware of and be able to demonstrate an understanding of:

- The environmental policy, and all environmental procedures relevant to their job responsibilities
- Relevant requirements of the EMS, including emergency response
- Significant environmental aspects and impacts in their areas of work, and the objectives and targets set to address these aspects
- Their roles and responsibilities in (a) the EMS, (b) achieving objectives and targets, and (c) ensuring compliance with legislation and regulations
- The need to always follow specified procedures when there is a risk of significant environmental impact

- The requirement that anyone involved in an activity that may have an environmental impact must be competent to take part in that activity.

Requirements for Specific Roles and Responsibilities

Training tailored to meet specific needs will be required for:

- Top management in their role as 'keepers' of the environmental policy (including legal compliance); leaders of the EMS implementation; providers and allocators of resources; and assessors of progress in Management Review sessions
- Personnel responsible for identifying environmental aspects and impacts, and their significance
- Personnel responsible for ensuring legal compliance
- Operating personnel whose activities have a potential to cause environmental impact
- Members of the emergency response team
- Personnel who handle hazardous materials
- Personnel responsible for environmental compliance monitoring
- Waste treatment personnel
- Personnel involved in developing written operating procedures
- Personnel responsible for controlling documents and records
- Internal audit team members
- New employees and contractors.

Personnel who have responsibility for assigning, scheduling, or conducting training must have procedures to:

- Keep an up-to-date schedule and program of environmental training
- Maintain records of each employee's training, and the results of tests to measure knowledge, skills, or competence (i.e., proof that training was completed satisfactorily)
- Specify the frequency of refresher and upgrade training
- Ensure that new employees and contractors receive prompt and appropriate environmental awareness training
- Define the qualifications and experience necessary for each position that can have an impact on the environment
- Evaluate the effectiveness of training.

Evaluation of Training

Far too rarely is the effectiveness of a training program evaluated at all; even more rarely is it evaluated properly. It is not practical to go into detail about evaluation methods in this lesson, but suffice to say that without thorough assessment of the value of training using a variety of measures, the probability is that the effort, time, and expense will be squandered again and again.

There are at least five levels of evaluation that can be done. Starting with the simplest and least informative, and progressing to the most complex and important, they are:

Participation – the level of attendance and involvement in training by an individual and the group

Reaction – the immediate response of participants to a training session, i.e., their opinions about its content, style, and value to them

Learning – how much of the material is retained, understood, and/or could be applied by participants at the end of the training

Transfer – how much of the knowledge, skills, behaviours, attitudes, and competence is transferred to the everyday work world of the participants

Impact – what are the short- and long-term effects of the training on the organization's environmental and bottom-line performance.

As with any endeavour, the most difficult tasks are usually the most worthwhile. Though organizations rarely assess the value of training in terms of its ultimate impact on their operations, this is where training must eventually provide benefits if it is to justify the time, effort, and money invested. An organization's EMS and environmental performance deserve nothing less.

SUMMARY OF KEY POINTS

- ISO 14001 sets a high standard of expectation that an organization will conduct appropriate training to develop their employees' awareness and competence regarding the EMS, and their part in improving environmental performance and the prevention of pollution.
- Specific training needs must be identified for all personnel whose work may have an impact on the environment, and the required training must be conducted in a timely manner.
- One approach to training needs assessment is the use of operational (job task) analysis.
- All personnel, including new employees and contractors, must be made aware of the requirements of the environmental policy, significant environmental aspects, actual and potential environmental impacts, relevant operating procedures to prevent pollution, the requirements of the EMS, and their specific roles and responsibilities in the EMS.
- Only personnel with demonstrated competence are allowed to work on tasks that may have an impact on the environment.
- Training programs must be ongoing, and include refresher sessions and skills upgrading as part of the drive towards continual improvement.
- Records must be kept of who has been trained, in what areas, and to what level of skill and competence.
- Organizations should invest time and effort in thoroughly evaluating the effectiveness of training programs.