



**ISO 14001 4.4.2  
TRAINING, AWARENESS  
AND COMPETENCE**



# Lesson Learning Goals

At the end of this lesson you should be able to:

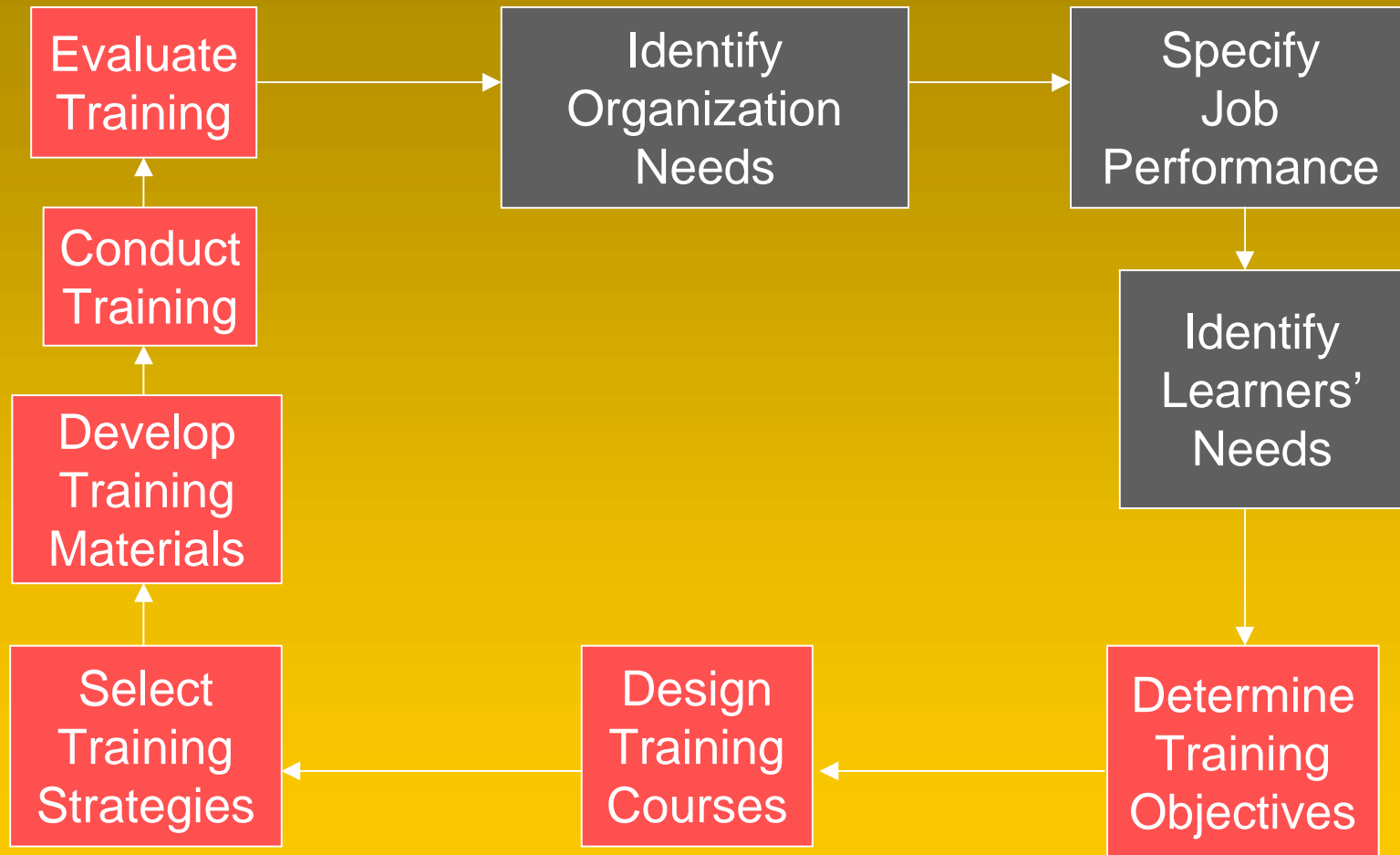
- Explain why effective training is an important requirement of ISO 14001
- Define training needs identification
- Outline a process for identifying training needs
- Distinguish between knowledge, understanding, and competence
- Specify at least three elements of ISO 14001 that all employees should be aware of

# More Lesson Learning Goals

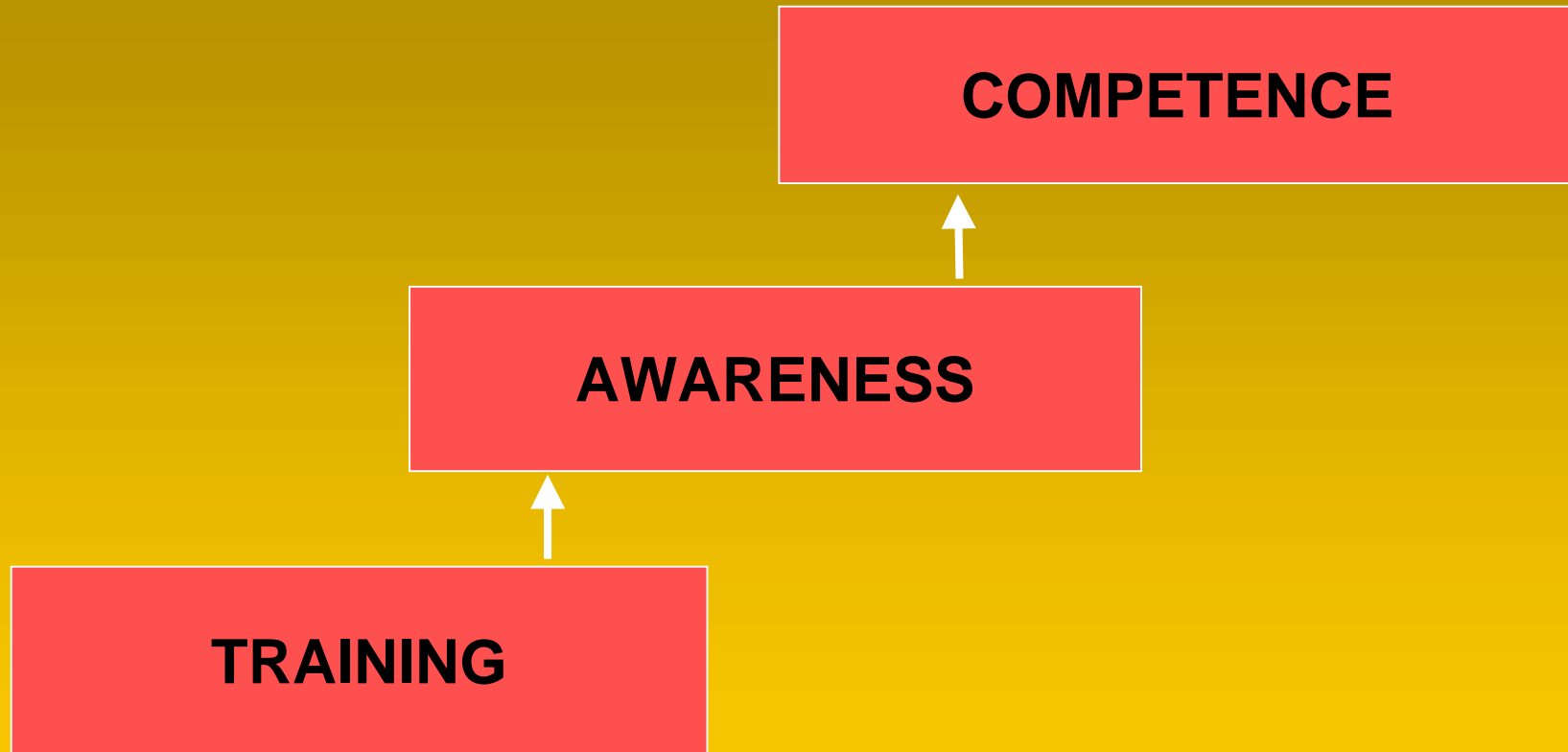
At the end of this lesson you should be able to:

- List five or more benefits of operational analysis
- Name three ways to evaluate training

# The Training Process



# The Big Three



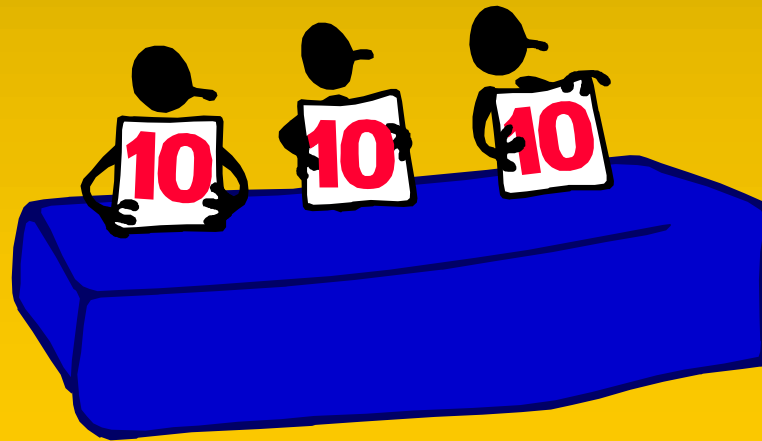
# Awareness



- People accept responsibility more readily if they understand why their actions are important
- People become self-motivated, so less reinforcement by management is required
- Emphasises that environmental protection is everyone's responsibility
- Helps to generate commitment by employees

# Competence

- The application of knowledge, understanding, judgement, and skill to consistently carry out an activity effectively and efficiently to a pre-set standard
- The objective of training should be to develop competence, or the means to attain competence



# ISO 14001 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 have received appropriate training.



# ISO 14001 4.4.2 Requires:

## Identification of the:

- Activities that may have a significant environmental impact
- Awareness, knowledge, skills, and competence required for these activities
- Training needed to achieve the required awareness, knowledge, skills, and competence

# Training Needs Identification Procedure

Training Need = the gap between present capability and desired capability

- ➔ Identify existing knowledge, skill levels
  - » Observation, interview, performance appraisals
- ➔ Identify desired knowledge, skills
  - » Involve prospective learners, experts, managers, others
  - » Identify prescriptive and motivational needs

# Operational Analysis - What Is It?

A method to break down the activities needed to do a job (or operation) into individual tasks or steps that describe **how** the operation is done

# Outcomes from Operational Analysis

- Required qualifications, skills, competencies
- Hazards, consequences, and precautions
- Risk assessment
- Training requirements
- Standards of performance
- Operating procedures
- Job descriptions

# Designing Training Programs

- Need clear, measurable objectives for training
- Involve prospective learners in developing content and design
- Target audience, with pre-requisite qualifications for attendance
- Focus on skills and competence as well as knowledge and understanding

# What Else is in ISO 14001 4.4.2?

The remainder of this element of ISO 14001 specifies that **the organization must have procedures to make all employees aware of:**

- The importance of, and their roles and responsibilities for, conforming with the environmental policy and procedures, and with the requirements of the EMS, including emergency preparedness and response requirements

# More from ISO 14001 4.4.2

The organization must also make employees aware of:

- Significant actual or potential environmental impacts of their work, and the environmental benefits of improved personal performance
- Potential consequences of departure from specified operating procedures

# All of Which Means

- ➔ Must have ways to communicate information and create environmental awareness
- ➔ **Everyone** (i.e., both managers and employees) must be made aware of:
  - » The environmental policy and relevant environmental procedures
  - » EMS requirements
  - » Significant environmental impacts, objectives and targets
  - » Their roles and responsibilities in the EMS
  - » The need to follow specified procedures



# One More Requirement from ISO 14001 4.4.2

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

- i.e., personnel in positions where the environment could be impacted must be able to demonstrate they are competent to prevent pollution

# Other Requirements

- Maintain a training programme and schedule
- Keep records of training for each employee (proof that training was taken successfully)
- Specify frequency of refresher training
- Include contractors and new employees in training
- Define qualifications and experience in job descriptions
- Evaluate the effectiveness of training

# Training for All

- » Managers, supervisors
- » Environmental staff
- » Foremen/women
- » Operators
- » Maintenance
- » Purchasing
- » Human resources
- » Office staff
- » Security, cleaners
- » Contractors

# Specific Training Requirements

- Top management
- Personnel responsible for identifying environmental aspects and impacts
- Personnel responsible for ensuring legal compliance
- Operating procedures for employees carrying out tasks where there is a risk of significant environmental impact
- Emergency response team

# Specific Training Requirements (Cont'd)

- Persons handling hazardous materials
- Employees involved in environmental monitoring
- Waste treatment personnel
- Persons developing written procedures
- Personnel responsible for controlling documents and records
- Internal environmental auditors
- New employees

# Evaluation of Training

Five levels of evaluation:

**IMPACT**

**TRANSFER**

**LEARNING**

**REACTION**

**PARTICIPATION**

# Concluding Thoughts

## Important points to remember:

- ISO 14001 has high expectations that organizations will conduct appropriate training to develop their employees' awareness and competence regarding the EMS, environmental performance, and prevention of pollution
- Specific training needs must be identified for individuals whose work may have an impact on the environment, and the appropriate training must be conducted

# Concluding Thoughts (Cont'd)

## Additional points to remember:

- Operational analysis can provide detailed information on training needs
- All personnel, including contractors, must be made aware of the environmental policy, aspects, impacts (i.e., actual and potential), procedures, requirements of the EMS, and their specific roles and responsibilities in the EMS
- Awareness can be developed through various means of communication as well as by training



# Concluding Thoughts (Cont'd)

Yet more points to remember:

- Only competent personnel are allowed to work on tasks that can have significant environmental impacts
- Training programs should be on-going, including refresher courses and training for continual improvement
- Records of who has been trained must be kept
- Organizations should evaluate the effectiveness of training programs