



Quality Enhancement Unit Environmental Management System

Module 5

Operational Control



Module 5 Objectives

- What are Operational Controls?
- ISO 14001 Requirements
- NCDOT EMS Framework Requirements
- Examples of Operational Controls
- Preventive Maintenance
- What are Procedures?

Module 5 Objectives

- What are Standard Operating Procedures?
- When is a Written Procedure Required?
- Writing Procedures
- Responsibility for Maintaining Procedures
- Supplier/Contractor Expectations

What are Operational Controls?

- Operational controls are developed and implemented to ensure that the potential for significant negative environmental impacts are minimized.
- Operational Controls describe specific operations for controlling and managing the activities, processes, products, and services associated with the significant environmental aspects.

Operational Controls should:

- 1. Prevent pollution**
- 2. Comply with legislation and regulations**
- 3. Continually improve**
- 4. Achieve objectives and targets**



ISO 14001 Requirements

The organization shall identify those operations and activities that are associated with identified significant environmental aspects in line with its policy, objectives, and targets. The organization shall plan these activities, including maintenance, in order to ensure that they are carried out under specified conditions by:

- (a) Establishing and maintaining documented procedures where the absence could lead to deviations from the environmental policy and objectives and targets
- (b) Stipulating operating criteria in the procedures



NCDOT EMS Framework Requirements

Operational control procedures must be developed for operations associated with aspects with significant impacts.

Operational Control procedures stipulate operating criteria and instructions to ensure operations and activities are carried out appropriately.

NCDOT EMS FRAMEWORK EMS Framework Intro Revised 12/05/2006

NCDOT Div. Or Unit EMS	Procedure for Developing Operational Controls	
	Division: (Div/ Unit as needed):	Division or Unit
	Prepared By:	
	Number & Revision:	NCDOT-L2-GenOps-017 Revision X
	Revision Date:	Page 1 of 1
	ISO 14001 reference(s)	4.4.6 Operational Control
	Document references	none

Purpose:
ISO 4001 requires that an organization must develop Operational Controls, also known as Standard Operating Procedures or SOPs, for those operations that are associated with significant aspects.

Responsibilities:
The EMS Responsible Person is responsible for ensuring that all Operational Controls are properly documented. The EMS Team and relevant operations support personnel shall assist the EMS Responsible Person as needed.

Procedure:

- 1) For all significant aspects identified in NCDOT-L4-GenOps-010a NCDOT Environmental Aspects and Impacts Matrix, the EMS Responsible Person shall identify whether adequate Operational Controls procedures that currently exist. Adequate procedures will control situations with a potential for negative environmental impact and will link operations to significant environmental aspects, significant impacts, the environmental policy, objectives and targets.
 - a) Operational control procedures also include management operations. These procedures cover the management and control of both the EMS and the principal environmental aspects, which the system manages.
- 2) If current Operational Controls are not adequate, then the EMS Responsible Person shall coordinate the revision or creation of adequate Operational Controls.
- 3) All Operational Controls Procedures will be assigned an EMS document number and will be reviewed per NCDOT-L2-GenOps-016 Documentation & Document Control.

Examples of Operational Controls

Controls may include:

- Electronic or mechanical technology to reduce emissions
- Routine preventive maintenance programs to reduce wear and breakdown of equipment
- Monitoring and observation of equipment performance

Types of Operational Controls:

- Standard Operating Procedures
- Contract Language
- Signage
- Log Books
- Check Lists



Preventive Maintenance

- The goal of preventive maintenance is to avoid or lessen the consequences of equipment failure.
- Much time, effort, and money could be saved if organizations invested more in routine maintenance procedures to stop problems before they appear.



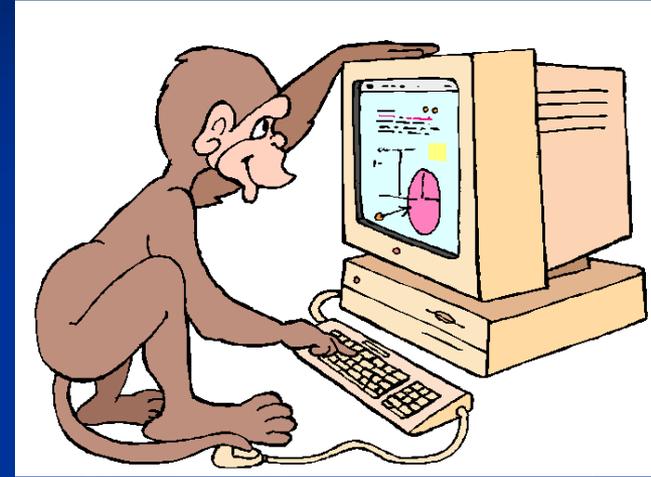
What are Procedures?

- A procedure is an activity carried out in accordance with specified instructions.
- A procedure defines who has the authority and responsibility to conduct the activity, what resources are needed, when the activity is to be done, and the sequence of tasks to complete the activity.



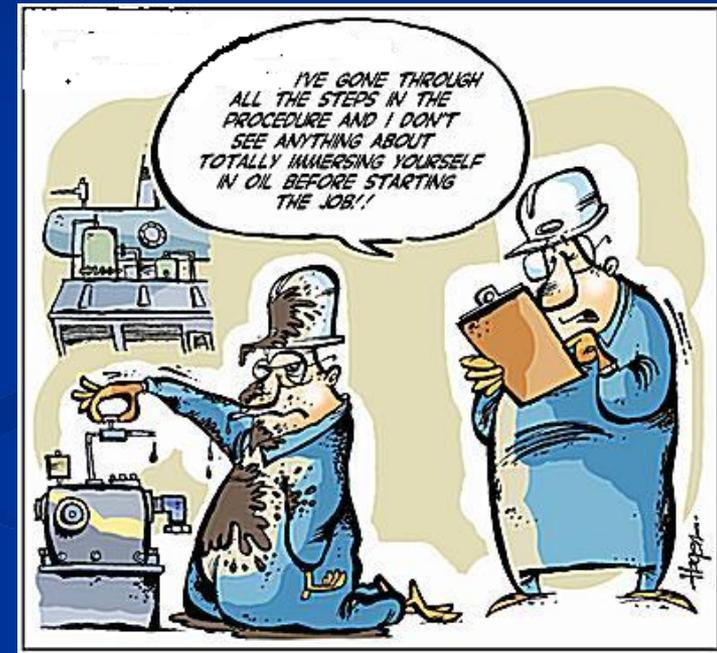
Writing Procedures

- When writing procedures for operational controls, determine the environmental objectives desired, set targets for performance, and write procedures to ensure that the objective will be met.
- Keep the procedure simple and concise. They should include the appropriate actions precautions, and notifications required.
- Involve people who are knowledgeable and experienced in the operation, activity, or task.



Standard Operating Procedures

A Standard Operating Procedure is a set of instructions having the force of a directive, covering those features of operations that lend themselves to a definite or standardized procedure without loss of effectiveness.



When is a Written Procedure Required?

- When ISO 14001 specifies a documented procedure.
- When the absence of a written procedure could lead to deviations from the environmental policy and objectives and targets.
- When an operation is:
 - Complex
 - Conducted infrequently
 - Sensitive to operating variables



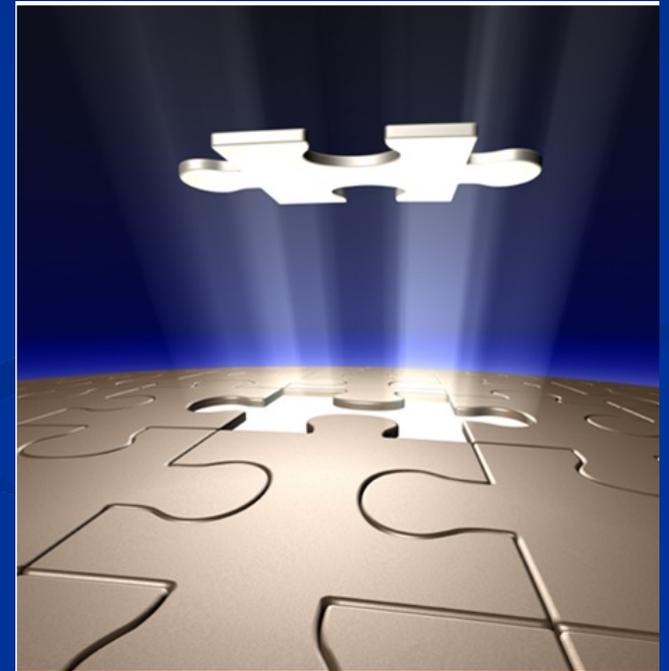
Documenting Procedures

- A documented procedure helps to achieve consistency between:
 - Different divisions, units, operators
 - Different operators doing the same activity
- The ISO standard states that a documented procedure is needed only if a pollution problem may occur.
- A procedure should be documented only if the written version adds value.



Documenting Procedures, continued

- Useful when training operators.
- Defines roles, responsibilities, accountability, and reporting requirements.
- Clearly specifies operating conditions, limits, targets, and precautions.



Responsibility for Maintaining Procedures

- Designate those people responsible for maintaining and reviewing procedures.
- The workers responsible for the significant aspect under consideration should be responsible for implementing the procedure.
- The worker's manager should be responsible for regular review of the procedure.



Supplier/Contractor Expectations

- Requirements of the EMS must be communicated to suppliers and contractors who are on site.
- Contractors must comply with all EMS requirements when on site.

(For more information on contractors/suppliers see EMS Framework page 97)



Summary

- Operational controls include pollution control equipment, alarms, preventive maintenance, and operating procedures.
- Preventive maintenance is a key way of controlling operations.
- ISO 14001 requires a documented procedure if the absence of one could cause environmental problems.

Summary

- Written procedures define roles, responsibilities, accountability, and operating criteria.
- Document a procedure only if it adds value.
- Communicate environmental requirements to suppliers and contractors.

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