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# Hazardous Materials and Terrorist Incident Prevention Curriculum Guidelines

## Prevention in Operations

## Introduction

*Prevention in Operations* describes the training requirements of persons who supervise or operate processes that involve the storage, transport, handling, manufacture, or use of hazardous materials. These employees are responsible for ensuring that hazardous materials prevention activities and safety requirements defined in system/process safety management plans and standard operating guidelines (SOGs) are properly implemented and enforced.

The job requirements and training needs of operations personnel will vary significantly, depending on the size and nature of the operation, the type of hazards involved, the prevention strategy adopted by the facility, and the duties of the employee. However, generic roles and responsibilities can be defined as follows:

- Assist the prevention program manager identify hazardous materials risks, prevention opportunities, and safe operating practices and procedures for specific processes/operations.
- Implement, monitor, and enforce safe working practices and procedures for specific operations.
- Participate in record keeping, reporting, safety reviews, compliance audits, incident investigations, inspections, evaluations, and other prevention program activities.

## Training Audience

The training audience for *Prevention in Operations* consists of employees of public, private, and non-profit facilities. In this context, the terms “facility” and “process” are broadly defined, specifically to include large and small operations at industrial plants, commercial establishments, trucking and other transport companies, government agencies, health care operations, utilities, and many other types of organizations.

The training audience includes a broad spectrum of facility workers, from supervisors of huge chemical production systems to fork lift operators. Audience members include production managers, shift supervisors, line operators, general laborers, hazardous materials transport employees, and many process-specific job titles.

## Training Requirements

As a prerequisite of training, students are assumed to already know how to carry out their basic work responsibilities. Thus, the goal of training is to promote hazardous materials incident prevention and employee safety by enhancing participants’ ability and motivation to 1) identify and apply safe working practices and procedures on the job, 2) ensure compliance with established prevention program requirements, and 3) contribute as assigned to related program activities (e.g., hazard analysis, planning, record keeping, incident critiques, audits, etc.).

A safety management plan and job-specific SOGs, prepared under the direction of the prevention program manager, should exist for all hazardous materials activities. Instruction in *Prevention in Operations* therefore emphasizes the knowledge and skills students need to apply these established systems and procedures under varying conditions and in a wide range of routine and

non-routine work situations. Specifically included is the ability to implement SOGs that define the student's prevention responsibilities, and to recognize and report potential safety problems.

Training must be highly specific to each student's needs, which, in turn, depend on their unique job requirements (type of operations, work responsibilities, associated hazards, prevention strategies, etc.). Therefore, instruction emphasizes the transfer of operations-specific knowledge and skills that students need to implement the organization's prevention program and avoid accidents. General training in prevention concepts and techniques is provided as necessary to support this primary goal.

## Methodology Recommendations

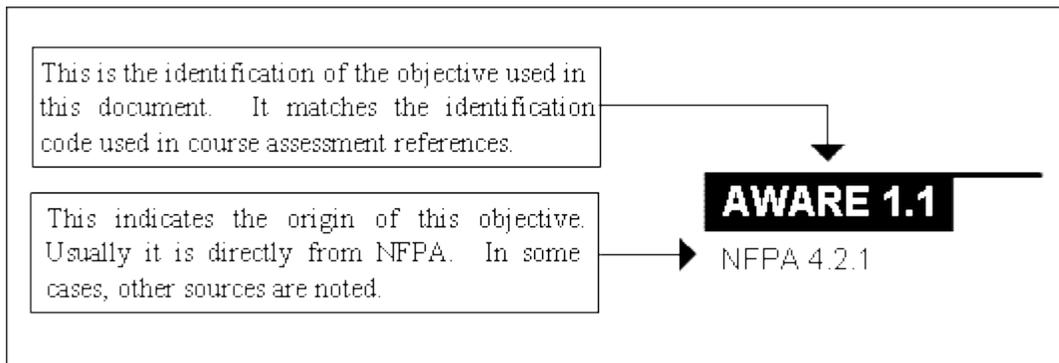
All students will benefit by awareness-level training in hazardous materials prevention and an understanding of the organization's prevention program. Audience members also need technical knowledge and skills that are specific to their jobs. For this latter type of training, audience members should be grouped to the extent possible by process, hazard, and job type. Training can then be more effectively tailored to the needs of different workers.

Participants should be given opportunities to apply and practice job-specific operating procedures and safety systems under different work conditions and situations. For classroom activities, case studies and scenarios can be used. However, hands-on use of equipment under realistic working conditions and on-the-job training are encouraged. Activities should highlight creative approaches to prevention program requirements and practical solutions to common problems. Drills or exercises under simulated emergency or non-routine situations are also useful.

The scope and duration of training will vary depending on the nature and complexity of related SOGs and safety systems. Checklists, job aids, and other practical tools that can be used at the work site should be included in course materials whenever possible.

## Recommended Training Objectives

### Objective Identification Legend



Prevention Training Considerations

Prevention Awareness

Prevention Policy Development

Community Program Management

Prevention in Operations

Design and Plans Review

Inspection and Enforcement

Appendix A: Haz Mat Prevention Authorities and Statutory Mandates

Appendix B: Haz Mat Prevention Training Requirements

Appendix C: Organizational Structure for Prevention

Appendix D: OSHA Standard 1910.119

## Prevention in Operations 1.

**PROPS - 1.1.** Given an overview of prevention concepts and activities (see Prevention Awareness), describe employee safety requirements.

**PROPS - 1.1.1.** Describe general safety and health provisions protecting worker safety.

**PROPS - 1.1.2.** Describe general guidelines for employee participation in hazardous materials prevention activities.

**PROPS - 1.1.3.** Describe general guidelines for employee training in workplace safety and health.

**PROPS - 1.1.4.** Describe general guidelines for maintaining and accessing process safety information.

**PROPS - 1.2.** Given the organization's hazardous materials prevention program, describe elements of the program that affect operations.

**PROPS - 1.2.1.** Describe the organization's hazardous materials prevention mission and policies.

**PROPS - 1.2.2.** Describe the organization's hazardous materials emergency response capabilities and systems.

**PROPS - 1.2.3.** Describe components and relevant aspects (policies, activities, roles, etc.) of the organization's hazardous materials prevention program.

**PROPS - 1.3.** Given an operation's hazards assessment and safety plan, describe prevention strategies.

**PROPS - 1.3.1.** Identify specific hazards and risks associated with the operation.

<b>PROPS - 1.3.2.</b>	Describe and demonstrate the ability to access and use process safety information to enhance prevention.	Prevention Training Considerations
<b>PROPS - 1.3.3.</b>	Describe organizational strategies and safe work practices designed to address all identified hazards.	Prevention Awareness
<b>PROPS - 1.4.</b>	Given an operation's work situation and scenarios, describe and apply standard operating guidelines (SOGs) that relate to safe working practices.	Prevention Policy Development
<b>PROPS - 1.4.1.</b>	Describe the role of SOGs in hazardous materials safety and prevention programs.	Community Program Management
<b>PROPS - 1.4.2.</b>	Demonstrate the ability to apply SOGs that define safe operations (e.g., routine and non-routine operating procedures and practices, contractor safety).	Prevention in Operations
<b>PROPS - 1.4.3.</b>	Demonstrate the ability to apply SOGs for safety systems (e.g., pre-startup safety reviews, maintenance/mechanical integrity, management of change).	Design and Plans Review
<b>PROPS - 1.4.4.</b>	Demonstrate the ability to apply SOGs for compliance and enforcement activities (e.g., safety inspections and enforcement, compliance safety audits, incident record keeping, reporting, and investigations).	Inspection and Enforcement
<b>PROPS - 1.5.</b>	Given the organization's hazardous materials prevention program, participate as assigned in various program activities.	Appendix A: Haz Mat Prevention Authorities and Statutory Mandates
<b>PROPS - 1.5.1.</b>	Demonstrate the ability to participate as assigned in prevention program analysis and planning activities.	Appendix B: Haz Mat Prevention Training Requirements
<b>PROPS - 1.5.2.</b>	Demonstrate the ability to participate as assigned in prevention training activities.	Appendix C: Organizational Structure for Prevention
<b>PROPS - 1.5.3.</b>	Demonstrate the ability to participate as assigned in the design of new or modified facilities, systems, or processes.	Appendix D: OSHA Standard 1910.119
<b>PROPS - 1.5.4.</b>	Demonstrate the ability to participate as assigned in monitoring, evaluating, and continually refining prevention program activities.	