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Hazardous Materials and Terrorist Incident Prevention Curriculum Guidelines

Preface

Organization of the Curriculum

The ultimate goal of the *Prevention Curriculum* is to improve safety in hazardous materials operations, thereby reducing the probability and severity of accidents and exposures. This goal is accomplished by enhancing participants' motivation and ability to develop and implement effective prevention programs and activities within their organizations. Instruction is intended to supplement, not replace, other job-specific education and training that audience members receive in their primary work functions.

The *Prevention Curriculum* addresses the training needs of two broad audience groups: persons who conduct hazardous materials operations, whether in the public or private sectors; and persons responsible for government and other oversight and enforcement programs to protect worker and citizen health. At this time, the general public is not identified as a curriculum audience, although personnel responsible for public information and education activities are included.

The *Prevention Curriculum* is organized into seven audience categories based on commonalities in knowledge and skill requirements. These categories are briefly described below; more detailed information on each is presented in the following sections.

- Prevention Awareness describes the introductory training requirements of all audiences in the Hazardous Materials Prevention Curriculum. Instruction is intended to give participants general knowledge about prevention that can serve as a foundation for subsequent job-specific training. The audience includes anyone who has responsibilities in hazardous materials prevention or could influence prevention efforts at state and local levels. Participants are provided with 1) an introduction to basic prevention terminology and concepts, 2) an explanation of individual and organizational roles in prevention, and 3) an overview of common prevention methods and activities.
- Prevention Policy Development describes the training requirements of persons who direct, manage, or own organizations that use hazardous materials—chief executives and senior managers from a broad spectrum of government, private sector, and non-profit organizations. In this role, audience members oversee the development and maintenance of the prevention program, and direct staff and others who implement the program on a day-to-day basis. They have the organizational authority to develop and enforce prevention program policies and to budget and expend related funds.
- Prevention Program Management describes the training requirements of persons who develop or manage prevention programs and related activities for organizations that use hazardous materials. Individuals in this category are responsible for ensuring worker and public safety in hazardous materials operations, and for implementing the organizational policy and direction established by senior managers. The training audience consists of supervisory-level personnel in hazardous materials facilities and transport operations, both public and private. Since training requirements will depend on the size and nature of the operations, the audience is further subdivided as follows:

- Smaller/Less Complex Operations describes the training needs of persons that manage smaller and/or less complex hazardous materials operations, such as retail outlets, small energy distributors, trucking firms, and so forth.
- Larger/More Complex Operations describes the training needs of persons that manage prevention programs for larger producers, processors, and distributors of hazardous materials, including those subject to OSHA's Process Safety Management (PSM) Standard
- Community Prevention Program Management describes the training needs of persons who develop and manage state and local government hazardous materials prevention programs and activities (community hazards analysis, prevention planning, land use planning, construction plans review, inspection and codes enforcement, public education, etc.). The training audience includes government officials and others with supervisory-level responsibilities in community hazardous materials prevention, e.g., state environmental agency prevention managers, HMEP program managers, local response agency (fire, law enforcement, emergency medical services) prevention managers, hazardous materials planners, zoning board members, codes enforcement managers, emergency management program directors, and other community representatives.
- Prevention in Operations describes the training requirements of persons who regulate, respond to, supervise or operate systems or processes that involve the use of hazardous materials. These employees are responsible for ensuring that hazardous materials prevention activities and safety requirements defined in safety management plans and SOGs are properly implemented and enforced. The training audience includes employees of public, private, and non-profit facilities, including 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.
- Design and Plans Review describes the training needs of persons who oversee and participate in the design, planning, approval, and construction of hazardous materials operations (plants, buildings, processing systems, equipment, etc.). Individuals performing this function are responsible for incorporating the requirements and recommended practices contained in prevention codes and standards into detailed plans, specifications, instructions, and other documents. The training audience includes members of the design team and community officials who oversee the process. A secondary audience includes persons that implement the approved design (procurement personnel, contractors, vendor representatives, production operators, etc.)
- Inspection and Enforcement describes the training needs of persons who monitor, inspect, and evaluate safety in hazardous materials operations. In this role, audience members 1) identify risks and prevention opportunities associated with specific operations, and 2) assess and enforce compliance with established authorities and codes. The audience includes inspectors and enforcement officials from community agencies (fire service, police, health agency, etc.), and individuals with similar roles in public, private, and non-profit organizations (safety officers, production managers, shift supervisors, insurance company representatives, consultants, etc.).

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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

Use of the Guidelines

The following sections of the Prevention Curriculum Guidelines identify training requirements for each audience category defined above. This analysis is presented in the form of detailed terminal and enabling instructional objectives that define basic competencies audience members need to successfully perform their prevention responsibilities. Narrative information describing each curriculum area (i.e., purpose of training, target audiences, subject matter content, and recommended training methodologies) is included.

The training requirements identified here are compatible with the prevention philosophies and strategies contained in federal regulations and guidelines (see Appendix A) and other respected studies. However, the curriculum model is necessarily general in nature. State and local training managers will have to match the unique roles and responsibilities of their personnel with the categories in the model, or tailor the model to meet their specific needs. Assistance in this process will be addressed in the Guidelines for Training Program Management section of subsequent editions of this manual.

To minimize confusion, some important terminology is clarified below.

- “Accidental releases,” “accidents,” “incidents,” and “events” are used interchangeably to define emergency situations that have the potential for adverse effects on human health, property, and the environment.
- The terms “operations” and “system/process” are broadly defined to mean any activity involving a hazardous chemical, including the storage, manufacturing, processing, handling, on-site movement, or transportation of such materials.
- “Hazards assessment” and “hazards analysis” are used interchangeably to describe the general process of identifying, categorizing, and assessing the risk of hazardous materials accidents and exposures. The specific approach used for this process will depend upon organizational needs, resources, and preferences.
- “Risk” means the potential losses associated with a hazard and is defined in terms of expected probability, frequency, magnitude, severity, exposure, and consequences.
- “Facility” is broadly defined to include the buildings, containers, and equipment that house a hazardous materials operation or system/process.