

Hazardous Materials and Terrorist Incident Planning Curriculum Guidelines

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The goal of the *Hazardous Materials and Terrorist Incident Response Planning Curriculum* is to enhance the knowledge, skills, and attitudes of a broad spectrum of state and local training audiences, thus promoting better hazardous materials and terrorist incident planning by jurisdictions and facilities. The *Planning Curriculum Guidelines (Planning Guidelines)* are intended to assist public sector training managers and employers to understand the requirements for training public sector personnel involved in planning for hazardous materials and terrorist emergencies. Existing regulatory requirements are defined, and training recommendations are offered to help public sector training managers improve the quality and effectiveness of hazardous materials and terrorist incident response planning.

The Need to Train

The skill and training of individual responders is only one aspect of safe and effective emergency operations. Terrorist and hazardous materials incidents are complex and involve the coordinated and timely actions of many different persons, often under stressful conditions. The quality of this coordination—based on clearly defined lines of authority, adequate communication systems, availability of resources when needed, etc.—may play a more important role than individual responder training in minimizing injuries and maximizing control of the emergency.

In hazardous materials and terrorist instigated emergencies, the importance of pre-response planning cannot be overstated. Plans provide a mechanism for evaluating operational strategies, defining roles and procedures, communicating organizational assignments, and assessing the adequacy of responder training. The integrated team planning process fosters trust and cooperation among individuals and organizations that must work together during an incident. Planning also leads to effective mitigation and prevention measures, thus providing communities and facilities with an opportunity to eliminate or reduce the costly and tragic effects of hazardous materials incidents before they occur.

Effective response and prevention planning depends upon the ability of the people who do the work. The quality of hazard analyses and capability assessments, and the effectiveness of response and prevention plans, is directly related to the competency of the personnel assigned responsibility for performing related tasks—public and private sector officials, agency and program managers, planners, technical experts, and many others.

OSHA's regulation 29 CFR 1910.120(q) requires that all employees be properly trained to perform their roles in response to hazardous materials emergencies. By convention, this is extended to responders to terrorist incidents as well. Employers are not currently required by federal law to train personnel involved in planning. However, federal guidelines strongly recommend that all personnel who participate in the hazardous materials or terrorist incident response planning process at the state and local levels be trained to full competency to perform their roles.

The Scope of the Planning Curriculum

The *Hazardous Materials and Terrorist Incident Response Planning Curriculum* addresses training needed by persons who have a defined role in the development, implementation, evaluation, and maintenance of hazardous materials and terrorist incident emergency plans and standard operating procedures (SOPs). These critical documents must be prepared by state governments, local communities/jurisdictions, community support services organizations

(hospitals, schools, mass care, business/industry, etc.), public sector agencies, and private sector facilities that store, use, or transport significant quantities of hazardous materials. Training requirements for the curriculum span a tremendous variety of functions, skills, and audiences.

Planning Development, Implementation, Evaluation and Maintenance

In the public sector, functional responsibilities include directing and controlling the planning process, collecting data and managing information, identifying hazards, analyzing related vulnerabilities, estimating risk, assessing capabilities, serving as operational experts in writing plans and SOPs, implementing and integrating the results with other planning efforts, designing and evaluating complex exercises, and updating the plan on a regular basis. Individuals performing this work include community officials, SERC and LEPC members, agency and program managers, emergency managers, fire service workers, police, emergency medical services personnel, public works officials, community services and volunteer organization representatives, consultants and technical experts, and many others.

Planning for the Transportation and Storage of Hazardous Materials

In the private sector, similar roles and functions must be performed. Facilities that meet certain criteria must also conduct technically sophisticated analyses for chemicals they store, handle, or transport; develop production/process safety management plans and employee safety plans; and comply with employee and community right-to-know requirements and other reporting mandates. Potential training audiences include industry owners and executives, business planners, production/process managers, functional managers (e.g., communications, public information, emergency response, etc.), safety officers, technical experts, and others employed by the facility. Local government personnel who have responsibilities for reviewing and approving facility plans and/or enforcing compliance with existing regulations and standards may also benefit by training in this area.

Training Challenges

This diversity of audiences and roles presents a special challenge for managing training for hazardous materials and terrorist response planning. Access to training audiences is more complex because the interdisciplinary nature of the audience suggests a broad range of possible training delivery mechanisms. Audience members may have limited time available for training in planning since this role is often viewed as an ancillary duty to primary work responsibilities. Finally, hazardous materials and terrorist incident training resources may be limited, necessitating an emphasis on response training, with training in planning and prevention receiving a lower organizational priority.

The Planning Curriculum Model

The curriculum is organized into three training levels based on general skill requirements of the target audience: *Planning Orientation*, *Planning Essentials*, and *Planning Specialties*.

Planning Orientation

The Planning Orientation curriculum area provides an introduction to hazardous materials and terrorist incident response planning, with an emphasis on the need for effective plans and the

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benefits to be derived. Instruction is designed to help individual students identify their roles and responsibilities in the planning process, and motivate them to participate fully and effectively as planning team members. Desired training competencies include an awareness level understanding of general hazardous materials and terrorist incident planning concepts, processes, and legal requirements. No prerequisite knowledge of planning and emergency management concepts is assumed, and no skill development is attempted. Training should result in a positive attitudinal change and a general understanding of the planning function.

Planning Essentials

The Planning Essentials curriculum area provides participants with the knowledge and skills they need to develop a basic integrated hazardous materials and terrorist incident emergency plan for a jurisdiction or facility. The primary training audience is local planning team members. Training objectives cover a broad range of general competencies, including the ability to function effectively in a team environment, assist in or conduct a basic hazards analysis and capability assessment, work with others to analyze options and draft sections of the plan, and participate in plan implementation, evaluation, and maintenance.

Planning Essentials addresses basic skills, with an emphasis on the student's ability to interpret and use information provided by various technical specialists in developing the plan. More advanced planning skills are covered in the Planning Specialties curriculum area, discussed below. Audience members are assumed to already possess training competencies covered in Planning Orientation and an expertise in the professional discipline that the student represents on the planning committee. Managerial, administrative, and logistic requirements for organizing the planning process, including staff recruitment and assignments, are not addressed.

Planning Specialties

Recognizing that many skills are needed to support the planning process above those involved in basic plan development, the Planning Specialties curriculum area has been organized to articulate additional, often more advanced, learning competencies. State and local planning needs and training requirements will vary considerably in these specialty areas. Hence, the curriculum supports selective, focused training by jurisdictions and facilities in only those specialty skill areas where training is needed at any given time.

The Planning Curriculum Guidelines

The planning curriculum model presented in this Chapter reflects the general planning philosophies and team approaches incorporated in FEMA and NRT guidance. The training requirements derived from this planning curriculum model support the tasks needed to produce comprehensive OSHA and SARA Title III plans and facility plans. As noted previously, the training requirements address a variety of audiences and needs. While these *Planning Guidelines* bring together the planning guidance of emergency management agencies and the planning requirements of regulatory agencies, the challenge for state and local training managers will be to match the unique roles and responsibilities of personnel in their jurisdictions with the three curriculum areas (or competency levels) used in this model. Alternatively, training managers may tailor the model to meet their specific needs.

The Chapters of the *Planning Guidelines* identify training requirements for each major curriculum area: *Planning Orientation*, *Planning Essentials*, and *Planning Specialties*. These requirements are defined primarily in the form of terminal and enabling objectives. Enabling objectives describe capabilities needed by audience members to successfully perform the basic competencies stated in the terminal objectives. An overview of the target audiences and recommended training methodologies is presented here. More in-depth descriptions of the curriculum area, target audiences, subject matter content, and recommended training methodologies are offered at the beginning of each chapter.

Planning Training Considerations

The first chapter of the *Planning Guidelines* addresses general planning training considerations and includes:

- What is a plan?
- The planning process.
- Requirements for hazardous materials planning.

Planning Orientation

The second chapter addresses training within the first curriculum area, Planning Orientation.

Training Audience

The primary training audience for *Planning Orientation* includes all potential participants in the hazardous materials and terrorist incident planning process from jurisdictions, government and response agencies, community services organizations, private sector facilities and transporters, and other businesses and industries. Specifically included are elected and appointed officials, CEOs, program managers, and others who are able to influence jurisdictional and organizational planning priorities and resources. In addition, training is encouraged for the broad spectrum of persons who have a “stake” in planning, i.e., they may be impacted by the results of planning, although they have no defined role in the actual development of emergency plans. Thus, audience members might include:

- Jurisdiction and facility planning team members
- LEPC and SERC members
- Local and state government officials, including elected and appointed
- Facility owners and managers
- Representatives of government and response agencies, including SOP writers
- Representatives of community support services and volunteer organizations
- Emergency responders and mitigation/prevention personnel
- Citizens in the impacted planning jurisdiction
- Special interest and advocacy groups
- Emergency program managers

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Methodology Recommendations

The typical training delivery format for *Planning Orientation* is a brief (one to four hours) presentation or seminar led by an experienced and dynamic facilitator. Whenever possible, the audience should include representatives from a broad range of organizations and disciplines, thereby promoting a heightened understanding of the diverse interests and requirements associated with hazardous materials and terrorist incident response planning. Since training should motivate and encourage attitudinal change, the use of presentation graphics and instructional media (slides, videotapes, etc.) is particularly appropriate. Other considerations include:

- Training must be tailored to audience needs, recognizing that some students may have no understanding of emergency management or the challenges associated with interdepartmental planning and coordination.
- When possible, training should permit group interactions and foster initial team building.
- Training experiences should be practical and constructive to promote positive attitudinal change. The discussion of hazardous materials and terrorist threats, which is important to focus attention and clarify program need, should emphasize positive solutions through community and industrial planning and cooperation.
- Course materials should include local examples and issues to help generate interest and participation in local planning processes.
- Recruitment of students may be an issue due to lack of preexisting interest in the subject. “Teaser” programs and strategies to peak community interest and enrollment may be appropriate.

Planning Essentials

The third chapter addresses training objectives within the second general curriculum area, *Planning Essentials*.

Training Audience

The training audience for *Planning Essentials* includes planning team members who have a defined responsibility in researching, preparing, implementing, and maintaining hazardous materials and terrorist incident response plans for jurisdictions or facilities. These persons generally represent their organization or functional specialty in an integrated planning process. Audience categories can be summarized as follows:

- For communities, training audiences may include local government emergency planners, SERC/LEPC and Area Committee members, hazardous materials officers and team leaders, emergency program managers, public sector agency representatives, community support services and volunteer organization representatives, and various technical specialists.
- For private sector facilities, audience members may include industry owners and executives, general planners, production/process managers, functional managers (e.g., communications, public information, emergency response, etc.), safety officers, technical experts, and others employed by the facility.

- Personnel who have responsibilities for reviewing and approving facility plans and/or enforcing compliance with existing community regulations and standards may also benefit by training.

Methodology Recommendations

It is recognized that the planning needs of different jurisdictions and facilities, and the resulting training needs of planning team members, can vary greatly, depending on such factors as geographic size, demographics, hazards, local resources, and political preferences. However, *Planning Essentials* is intended to address the generic training requirements of all hazardous materials and terrorist incident response planners. Training managers, course developers, and instructors may need to tailor materials to meet the unique needs and interests of different audiences, incorporating elements covered in *Planning Specialties*, as appropriate.

Training can typically be accomplished in two to four days of classroom instruction led by an experienced facilitator. Breaking training into modules (e.g., Hazards Analysis) that are delivered at different times is also possible, and this approach may be beneficial if timed to coincide with planning team assignments. However, team building is very important in the planning process, so continuity of student groupings throughout training is recommended. Other training considerations include the following:

- Training should focus on the actual development of local plans, with the product and participation in the group planning process used to demonstrate student mastery of the objectives.
- Audience should be heterogeneous, reflecting the diverse community members and professional disciplines involved in the planning process. It is highly recommended that team members who will work together in subsequent planning efforts be trained together as a team.
- Course methodology should emphasize group interactions, team building, and resolution of interpersonal conflicts, as well as the development of the plan product itself.
- Course materials should be multi tracked in terms of type of plan (OSHA, SARA, etc.) to facilitate tailoring the instruction to the needs of the audience.
- Instruction should include practical strategies for merging local plan requirements and needs (i.e. merging several plan requirements into one development effort) to foster more efficient planning efforts.
- Instruction should emphasize the need for on going planning commitments by the team and the organizations they represent.
- Instruction should emphasize the need for ongoing evaluation at each step in the planning process.
- Instructors should emphasize that steps in the planning process, although taught sequentially, may actually be performed simultaneously.

Planning Specialties

The fifth through fourteenth chapters address training objectives that should be achieved by public sector employees performing various hazardous materials and terrorist incident response

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planning functions. These training objectives are organized by specialty area, and are subsumed under the *Planning Specialties* curriculum area.

- Planning Specialties
- Commodity Flow Study
- Hazard Analysis
- Capability Assessment
- Planning for Protective Actions
- Plan Implementation and Maintenance
- Facility Planning
- Planning for Public Education

The list of specialty areas included in the curriculum is intended to reflect the prevailing needs of state and local training organizations. It is anticipated that more specialty areas will be defined over time, and some may be eliminated or modified as needs change. Some candidates for future topic areas include Organizing the Planning Process, Planning Information Management, Exercising the Plan, SOP Writing, Illicit Use of Hazardous Materials, Liability Issues in Hazardous Materials, Marketing the Plan, and Public Information/Education Programs. Recommendations or feedback on the selection of topic areas for inclusion in future editions of the Guidelines should be directed to William Lewis, Emergency Management Institute, FEMA.

Training Audience

The training audience for the *Planning Specialties* curriculum includes jurisdiction and/or facility hazardous materials planning team members that have been assigned responsibilities requiring advanced level knowledge and skills, i.e., exceeding those skills needed to develop a basic plan as defined in *Planning Essentials*. Included are representatives of local government and response agencies, community services organizations, private sector facilities and transporters, and other businesses and industries. Since audience members will vary somewhat according to the topic, they are defined in more detail for each specialty area. However, a generic listing might include:

- Jurisdiction and facility planning team members
- LEPC and SERC members
- Facility owners and managers
- Representatives of government and response agencies
- Representatives of community support services and volunteer organizations
- Mitigation/prevention personnel
- Consultants and technical experts
- Emergency program managers

Methodology Recommendations

The typical training delivery format for Planning Specialties is a one to two day course led by an experienced instructor. However, more or less time may be appropriate, depending on the subject area, degree of complexity, and related planning requirements. Training managers may also wish to combine Planning Specialties modules for audiences that need training in more than one area, or add one or more modules to Planning Essentials. Other training considerations include the following:

- Audience members are assumed to already possess basic competencies in hazardous materials plan development. Otherwise, experience and expertise among audience members may vary significantly.
- Training should be tailored to audience needs, focusing on the specific jurisdiction's or facility's planning requirements and individual assignments in the planning process.
- Course materials should include local examples, and activities should be based on local issues and data to the extent possible.
- Where local teams are conducting complex studies, members should be trained concurrently, and training should permit group interactions and foster team building.

More information on training scope, audiences, and appropriate methodologies is presented on subsequent pages for each specialty topic area.

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