

Emergency Management Competency 2.6

Competency 2.6 Emergency Management personnel shall demonstrate a working level knowledge of the following guidance documents sufficient to apply the guidance to emergency management activities.

- **Emergency Management Guides (EMGs)**
- **Emergency Response Planning Guidelines (ERPGs)**
- **Protective Action Guide (PAG)**

1. Supporting Knowledge and Skills

- a. Discuss the topic associated with each of the Emergency Management Guides including implementation polices and methodologies.
- b. Discuss the development and implementation of Emergency Response Planning Guidelines and alternatives to use where they do not exist.
- c. Discuss the relationship between the Emergency Response Planning Guidelines and the Protective Action Guide associated with radiological exposure.
- d. Using the Hazard Assessment Guide (HAG), discuss the screening process including the screening thresholds for extremely hazardous, hazardous, and radiological materials.
- e. Discuss the philosophy of Emergency Action Levels (EALs) both symptomatic and event based as discussed in the DOE Order 5500.3, Planning and Preparedness for Operational Emergencies, and the Emergency Management Guides.
- f. Discuss the basis for determining the event classification using Emergency Action Levels and potential consequences using the Hazard Assessment Guide.
- g. Using DOE Order 5500.3 Planning and Preparedness for Operational Emergencies, and the Emergency Management Guides dealing with public information, discuss the responsibilities of each of the listed positions in the public information organization.
- h. Using the DOE Order 5500.3, Planning and Preparedness for Operational Emergencies, and the Emergency Management Guides, discuss the definitions and uses of drills and exercises. Discuss the role of players, controllers, and evaluators with respect to conduct and safety.
- i. Discuss the bounds and limitations of free play in regard to a drill or exercise.

Emergency Management Competency 2.6

- j. Discuss the responsibilities for safety during a drill/exercise. Explain how safety is built into a drill/exercise and how it is maintained during performance.
- k. Discuss protective actions and their effectiveness with regard to hazards and events.
- l. Discuss protective action recommendations with regard to general public implementation.
- m. Discuss the hazard characterization process as identified in the Hazard Assessment Guide.

2. Self-Study Activities (corresponding to the intent of the above competency)

Below are two web sites containing many of the references you may need.

Web Sites		
Organization	Site Location	Notes
Department of Energy	http://wastenot.inel.gov/cted/stdguido.html	DOE Standards, Guides, and Orders
U.S. House of Representatives	http://law.house.gov/cfr.htm	Searchable Code of Federal Regulations

Read the DOE Emergency Management Guide *Emergency Operations*, "Introduction," pages 1 through 6.

EXERCISE 2.6-A Briefly describe the guidance documents found in the Emergency Operations Management Guide.

Read the DOE Emergency Management Guide *Protective Actions*, pages 5 through 7.

EXERCISE 2.6-B What is the PAG? What government organizations publish the PAGs?

EXERCISE 2.6-C What are Emergency Response Planning Guidelines?

EXERCISE 2.6-D What is the relationship between PAGs and ERPGs?

Emergency Management Competency 2.6

Read the DOE Emergency Management Guide, *Hazard Assessment*, pages 7 through 9 and 24.

EXERCISE 2.6-E Using the HAG, discuss the screening process and screening thresholds.

EXERCISE 2.6-F Using the HAG, what are the main factors considered for determining the event classification?

Read the Emergency Management Guide, *Public Information*, pages 2 through 3.

EXERCISE 2.6-G Using the public information guide, identify the responsibilities of each position within the public information organization.

Read the Emergency Management Guide, *Event Classification and Emergency Action Levels*, page 3.

EXERCISE 2.6-H Using the Emergency Management Guide *Event Classification and Emergency Actions*, discuss the reasoning behind the implementation of emergency action levels (EALs).

Read the Emergency Management Guide, *Drills and Exercises*, pages 3, 9, and 10 and 17 and 18.

EXERCISE 2.6-I Using the DOE Emergency Management Guide *Drills and Exercises*, compare and contrast the uses of drills and exercises.

EXERCISE 2.6-J Using the DOE Emergency Management Guide *Drills and Exercises*, discuss the role of players, controllers, and evaluators with respect to conduct and safety.

EXERCISE 2.6-K What are the bounds and limitations of free play with regard to an emergency management drill or exercise?

EXERCISE 2.6-L Discuss the concept of safety with regard to emergency management drills and exercises.

Read the Emergency Management Guide, *Protective Actions*, pages 2 and 3.

EXERCISE 2.6-M What is meant by protective actions?

Emergency Management Competency 2.6

EXERCISE 2.6-N Using the PAG, list the 12 protective actions identified by the World Health Organization (WHO) and the International Commission on Radiological Protection (ICRP). Which three of these should be included in emergency management plans for facilities with potential releases of hazardous materials?

3. Summary

The Emergency Management Guide provides guidance for the implementation of the requirements of the DOE EMS. The guide is organized on a modular basis. The guidance contained in each of the modules in the document is generic in nature. Each module covers a separate area with direct application to the EMS. These areas are as follows:

- Program Administration
- Standard Format and Content of Emergency Plans
- Emergency Response Organization
- Offsite Response Interfaces
- Notifications
- Medical Support
- Public Information
- Emergency Facilities and Equipment
- Hazard Assessment
- Operational Emergency Event Classes
- Consequence Assessment
- Protective Actions
- Recovery and Reentry
- Drills and Exercises
- Training
- Emergency Readiness Assurance Plan (ERAP)
- Appraisal Criteria
- Emergency Exercise Evaluation Criteria
- Emergency Readiness Deployment Evaluations (ERDEs)

Emergency Management Competency 2.6

4. Exercise Solutions

EXERCISE 2.6-A Briefly describe the guidance documents found in the *Emergency Operations Management Guide*.

ANSWER 2.6-A

Guidance Documents Found in the <i>Emergency Operations Management Guide</i>	
Guide	Content
Program Administration	Overall establishment and maintenance of the emergency management program and management responsibilities.
Standard Format and Content of Emergency Plans	Describes the standard format that should be used when developing emergency plans and discusses the details of the emergency management program elements identified in DOE Order 5500.3A that should be included in emergency plans.
Emergency Response Organization	Describes the organizational element with clearly specified authorities and responsibilities for emergency response and mitigation that should be established and maintained for each facility/site.
Offsite Response Interfaces	Describes the provisions that should be in place for interface and coordination with Federal, state, tribal, and local agencies and organizations responsible for off-site emergency response and for protection of the environment and health and safety of the public.
Notification	Describes the notification and communication of emergency information, which should be consistent with the requirements of DOE Orders 5000.3B and 5500.2B.
Medical Support	Describes the provisions that should be in place for medical support for workers, including those with radiological and/or hazardous material contamination.
Public Information	Describes an emergency public information program, consistent with DOE Order 5500.4A, which should be established and integrated into the emergency management program.
Emergency Facilities and Equipment	Describes the facilities, equipment, and supplies that should be established and maintained for adequate emergency response support.

Emergency Management Competency 2.6

Guidance Documents Found in the <i>Emergency Operations Management Guide</i>	
Guide	Content
Hazard Assessment	Covers the preparation and use of the hazards assessment, which is critical to any full-spectrum emergency management program, as well as a discussion of the development of emergency planning zones (EPZs).
Operational Emergency Event Classes	Describes the process by which operational emergencies involving or affecting DOE facilities are characterized as one of the Operational emergency classes (e.g., Alert, Site Area Emergency, or general Emergency) in accordance with DOE Order 5500.2B. It also describes the emergency action levels (EALs), the specific criteria used to recognize and categorize events, which should be developed for the spectrum of potential operational emergencies identified by the hazards assessment.
Consequence Assessment	Describes the provisions that should be in place to adequately assess the actual or potential onsite and off-site consequences of an emergency.
Protective Actions	Describes the provisions that should be in place for specific, predetermined actions to be taken in response to emergency conditions to protect on-site personnel and the public.
Recovery and Reentry	Describes the provisions that should be made for recovery from an operational emergency and reentry into the affected area.
Drills and Exercises	Describes the coordinated program of drills and exercises that should be an integral part of the emergency management program.
Training	Describes the general training that should be provided to all workers regarding operational emergencies, and specialized training that should be conducted for all workers and be available to all regional, Federal, state, tribal, and local emergency response organizations.
Emergency Readiness Assurance Plan (ERAP)	Discusses the five-year plans that are developed to ensure that emergency plans, implementing procedures, and resources are adequate and sufficiently maintained, exercised, and evaluated.

Emergency Management Competency 2.6

Guidance Documents Found in the <i>Emergency Operations Management Guide</i>	
Guide	Content
Appraisal Criteria	Discusses the program used to ensure that stated emergency capabilities are sufficient to implement emergency plans, and that timely improvements are made in response to needs identified through coordinated emergency planning, resource allocation, training, drills, exercises, and evaluations.
Emergency Exercise Evaluation Criteria	Contains the standards and criteria used by the DEO using oversight appraisals of emergency exercises conducted by DOE sites and facilities.
Emergency Readiness Deployment Evaluations (ERDEs)	Contains the standards and criteria used by the Deputy Assistant Secretary for Military Applications (DASMA) and the DEO during evaluations of the ability of DOE national response assets to deploy to an incident site and carry out the responsibilities of the assets.

EXERCISE 2.6-B What is the PAG? What government organizations publish the PAG?

ANSWER 2.6-B The term “PAG” stands for Protective Action Guide. PAGs published by the U.S. Environmental Protection Agency (EPA) are to be used for comparison with exposures resulting from radiological releases to determine the appropriate emergency class. PAGs published by the U.S. Food and Drug Administration (FDA) are used for ingestion pathway planning purposes.

EXERCISE 2.6-C What are Emergency Response Planning Guidelines?

ANSWER 2.6-C Emergency Response Planning Guidelines (ERPGs) are developed and approved by the American Industrial Hygiene Association (AIHA) and are used for comparison with exposures resulting from nonradiological releases to determine the appropriate emergency class.

Emergency Management Competency 2.6

EXERCISE 2.6-D What is the relationship between PAGs and ERPGs?

ANSWER 2.6-D PAGs are applied to radiological releases. ERPGs are applied to nonradiological releases.

EXERCISE 2.6-E Using the HAG, discuss the screening process and screening thresholds.

ANSWER 2.6-E The objective of the screening process is to identify hazards that are significant enough to warrant consideration in a facility's emergency management program.

1. The Emergency Planning and Community Right-to-Know Act (EPCRA) requires that inventories of extremely hazardous substances, hazardous substances, and toxic chemicals, as defined by the EPA, be developed and maintained for each facility, and that those inventories be reported annually to local emergency planning authorities. This annual inventory must include all materials exceeding the threshold planning quantities (TPQs), or applicable state regulations if more restrictive.
2. Safety analysis reports (SARs), operational safety requirements (OSRs), and subordinate facility operating procedures and limits will be the source of inventory information on most radioactive and some nonradioactive hazardous materials. Material control and accountability (MC&A) records should be a primary source of information on current holdings and authorized limits for special nuclear material (SNM).
3. For those facilities having a documented vulnerability analysis, as required by DOE Order 5630.11, the identified targets that are also hazardous materials (e.g., radioactive materials at risk from theft, diversion, or sabotage) should be included in the list of facility hazards.

Screening thresholds or screening quantities should be used to eliminate the needs to analyze insignificant hazards.

Emergency Management Competency 2.6

EXERCISE 2.6-F Using the HAG, what are the main factors considered for determining the event classification?

ANSWER 2.6-F The following are considered for determining the event classification:

- The correlation of the facility event scenarios and estimated consequences
- Observable indications, such as EALs
- Protective actions that are appropriate to the scenarios

EXERCISE 2.6-G Using the public information guide, identify the responsibilities of each position within the public information organization.

ANSWER 2.6-G

Public Information Organization Position Roles	
Position	Description
Spokesperson	Briefs the news media and/or public on response and recovery activities and emergency status. The spokesperson should be someone at the executive level who is a credible source of information. This position is usually recognized as a spokesperson for the entire DOE/contractor/facility.
Joint Information Center (JIC) Director	Commands and controls the JIC, introduces the spokesperson, announces when briefings will be held, ensures a timely schedule between briefings, and opens and closes briefings.
News Director	Supervises preparation, approval, and dissemination of news releases and status reports, ensures follow-up to media inquiries, and works with the broadcast and print media to determine and assist their needs.
News Release Writers	Gather established information on the circumstances of the event, prepare news release(s), and obtain the appropriate approvals for news releases.
Public Inquiry/Rumor Control Supervisor	Checks unusual inquiries or rumors that should be addressed, and ensures that the news media are monitored for rumors and/or erroneous information for further research and correction.

Emergency Management Competency 2.6

Public Information Organization Position Roles	
Position	Description
Technical Consultant/Technical Briefer	Establishes and ensures DOE/contractor/site speaker credibility. The briefer should provide background information to the media; information on radiological, chemical, and other hazards; and operational implications of the incident.
Administrative Support Advisor	Ensures that adequate clerical support is available, that technical support problems are rectified, and that logistical support is properly managed.
Governmental Liaison	Establishes contact with government Public Information Officers and describes circumstances, facility operations, and emergency procedures. The Liaison also establishes appropriate communications with the DOE HQ Public Affairs Office; coordinates government news releases and other information based on information provided by the state, tribal, and local Public Information Officers; and confirms that coordination of information has occurred.

EXERCISE 2.6-H Using the Emergency Management Guide *Event Classification and Emergency Action Levels*, discuss the reasoning behind the implementation of emergency action levels (EALs).

ANSWER 2.6-H Prior experience has demonstrated that effective emergency response depends upon early recognition of indicators which signal the onset of accident events, coupled with the rapid implementation of emergency actions. The system of EALs and event classifications has been created to ensure the rapid recognition of accident indicators and the timely commitment of response resources.

Emergency Management Competency 2.6

EXERCISE 2.6-I Using the Emergency Management Guide *Drills and Exercises*, compare and contrast the uses of drills and exercises.

ANSWER 2.6-I Both drills and exercises play important, yet different, roles in developing and maintaining emergency response capabilities.

Comparing and Contrasting Drills and Exercises		
Both drills and exercises . . .	Drills provide . . .	Exercises provide . . .
<ul style="list-style-type: none"> train and test personnel; test procedures and equipment; and identify deficiencies, weaknesses, and improvement items. 	<p>“hands-on” instruction sessions for <i>individuals</i> or <i>teams</i>. These sessions develop, test, or maintain a specific operational or emergency response capability.</p>	<p>a comprehensive performance test of the <i>integrated</i> capability of most aspects in the emergency management program associated with the facility.</p>

EXERCISE 2.6-J Using the Emergency Management Guide *Drills and Exercises*, discuss the roles of players, controllers, and evaluators with respect to conduct and safety.

ANSWER 2.6-J

Roles During an Emergency Response Exercise	
Position	Description
Controllers	<ul style="list-style-type: none"> Facilitate the conduct of the exercise by providing scenario information to players Allow freedom of player decisions Preclude player decisions and control actions that may compromise the safety or security of the facility, personnel, or equipment
Evaluators	Observe, evaluate, and document the performance of the players and the activities within their areas of responsibility
Players	Respond during the drill or exercise in accordance with operational procedures and/or emergency plan implementing procedures as if the exercise information is real.

Emergency Management Competency 2.6

EXERCISE 2.6-K What are the boundaries and limitations of free play with regard to an emergency management drill or exercise?

ANSWER 2.6-K Free play is an important element in the management of drills and exercises. Free play is an extension of realism in that the players are generally permitted to make decisions and take actions they consider appropriate to the scenario. The key management aspect of free play is to allow such actions to occur, but to preclude actions by players that would do the following:

- Jeopardize personnel safety
- Jeopardize plant/facility safety
- Impact security
- Exceed established drill/exercise scope or limitations

EXERCISE 2.6-L Discuss the concept of safety with regard to emergency management drills and exercises.

ANSWER 2.6-L The safety of personnel and the facility is paramount during drills and exercises. The planning process and the management of drills/exercises must ensure that sufficient precautions and limitations are established and adhered to for the safe conduct of the drill/exercise. A person with the sole responsibility of ensuring safety during the exercise, such as an exercise safety director, should be appointed to the drill/exercise planning group.

During the conduct of a drill/exercise, all participants must comply with standard safety rules and practices. Participants must understand that the safety of participants, nonparticipants, the public, and the environment is of the highest priority. All participants are responsible for the safe conduct of the drill/exercise.

EXERCISE 2.6-M What is meant by “protective actions?”

ANSWER 2.6-M DOE Order 5500.1B, Attachment 2, defines protective actions as “physical measures, such as evacuation or sheltering, taken to prevent potential health hazards resulting from a release of hazardous materials to the environment from adversely affecting employees or the offsite population.”

Emergency Management Competency 2.6

EXERCISE 2.6-N Using the Protective Actions Guide, list the 12 protective actions identified by the World Health Organization (WHO) and the International Commission on Radiological Protection (ICRP). Which three of these should be included in emergency management plans for facilities with potential releases of hazardous materials?

- ANSWER 2.6-N
1. Evacuation
 2. Sheltering
 3. Decontamination of people
 4. Ad hoc respiratory protection
 5. Control of access
 6. Shielding
 7. Radioprotective prophylaxis (e.g., administration of stable iodine)
 8. Control of foodstuffs and water
 9. Relocation
 10. Decontamination of land and equipment
 11. Changes in livestock and agricultural practices
 12. Medical care

Typically, evacuation, sheltering, and decontamination of people should be provided for in emergency management plans for facilities with potential releases of hazardous materials.