

Lesson Overview

This lesson introduces you to the regulatory basis for HazMat planning and to the organization of an all-hazard Emergency Operations Plan (EOP). At the end of this lesson, you should be able to:

- Identify the key Federal regulations governing HazMat planning.
 - Describe how Federal, State, and local regulations affect how you plan.
 - Describe where HazMat fits into an all-hazard EOP.
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Regulatory Requirements for HazMat Planning

To reduce the consequences of HazMat incidents, all levels of government have established regulations.

- **Federal regulations** provide a baseline for hazardous materials production, storage, use, handling, and disposal.
 - Many **States** have passed laws that provide additional clarity for regulatory requirements, enforcement provisions, and unique requirements not covered by Federal law.
 - **Local regulations** cover requirements that are specific to the jurisdiction and to the materials that may be present within the jurisdiction.
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Federal Regulations

Several agencies have developed regulations to cover specific aspects of HazMat. The three most important agencies regulating HazMat include the:

- Environmental Protection Agency (EPA).
- Department of Transportation (DOT).
- Occupational Health and Safety Administration (OSHA).

Other agencies, such as the Coast Guard, regulate specific aspects relating to HazMat.

EPA Regulations

The EPA administers three major acts that directly affect HazMat:

The **Comprehensive Emergency Response, Compensation, and Liability Act of 1980 (CERCLA)** established notification procedures for HazMat emergencies, provided funding for cleanup and emergency-response actions for contaminated sites, and established compensation procedures for those injured at chemical sites.

The **Superfund Amendments and Reauthorization Act of 1986 (SARA)** reauthorized and amended CERCLA. Title III of SARA, the **Emergency Planning and Community Right-to-Know Act (EPCRA)**, outlines the emergency planning actions and employee notifications required by local, State, and Federal agencies and certain industries.

The **Resource Conservation and Recovery Act (RCRA)** gave the EPA the authority to control hazardous waste generation, transportation, treatment, storage, and disposal.

RCRA also set forth a framework for the management of nonhazardous wastes.

RCRA was amended in 1984 by the Hazardous and Solid Waste Amendments (HSWA). HSWA required the phasing out of land disposal of hazardous waste, increased the EPA's enforcement authority, provided more stringent hazardous waste management standards, and stipulated a comprehensive underground storage tank program.

Summary of CERCLA

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Over 5 years, \$1.6 billion was collected, and the tax went to a trust fund for cleaning up abandoned or uncontrolled hazardous waste sites. CERCLA:

- Established prohibitions and requirements concerning closed and abandoned hazardous waste sites.
- Provided for liability of persons responsible for releases of hazardous waste at these sites.
- Established a trust fund to provide for cleanup when no responsible party could be identified.

CERCLA authorizes two kinds of response actions:

- Short-term removals, where actions may be taken to address releases requiring prompt response.
- Long-term remedial response actions that permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances that are serious but not immediately life threatening. These actions can be conducted only at sites listed on the EPA's National Priorities List (NPL).

CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants.

CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986.

Superfund Amendments and Reauthorization Act of 1986 (SARA) Summary

The Superfund Amendments and Reauthorization Act (SARA) amended CERCLA on October 17, 1986. SARA reflected the EPA's experience in administering the complex Superfund program during its first 6 years and made several important changes and additions to the program. SARA:

- Stressed the importance of permanent remedies and innovative treatment technologies in cleaning up hazardous waste sites.
- Required Superfund actions to consider the standards and requirements found in other State and Federal environmental laws and regulations.
- Provided new enforcement authorities and settlement tools.
- Increased State involvement in every phase of the Superfund program.
- Increased the focus on human health problems posed by hazardous waste sites.
- Encouraged greater citizen participation in making decisions on how sites should be cleaned up.
- Increased the size of the trust fund to \$8.5 billion.

SARA also required the EPA to revise the Hazard Ranking System to ensure that it accurately assessed the relative degree of risk to human health and the environment posed by uncontrolled hazardous waste sites that may be placed on the National Priorities List.

Emergency Planning and Community Right-To-Know Act (SARA Title III) Summary

EPCRA, also known as SARA Title III, establishes requirements for Federal, State, and local governments, Tribal authorities, and industry regarding emergency planning and "Community Right-To-Know" reporting on hazardous and toxic chemicals. The "Community Right-To-Know" provisions help increase the public's knowledge and access to information on chemicals at individual facilities, their uses, and releases into the environment. States and communities, working with facilities, can use the information to improve chemical safety and protect public health and the environment.

EPCRA has four major provisions:

- Emergency planning (§301-303)
- Emergency release notifications (§304)
- Hazardous chemical storage reporting requirements (§311-312)
- Toxic chemical release inventory (§313)

Information from these requirements helps States and communities develop a broad perspective of chemical hazards for the entire community as well as for individual facilities.

Emergency Planning (§301-303)

Emergency response contains information that community officials can use at the time of a chemical accident. Community emergency response plans must:

- Identify facilities and transportation routes of extremely hazardous substances.
- Describe emergency response procedures, on and off site.
- Designate a community coordinator and facility coordinator(s) to implement the plan.
- Outline emergency notification procedures.
- Describe how to determine the probable area(s) and population(s) affected by releases.
- Describe local emergency equipment and facilities and the persons responsible for them.
- Outline evacuation plans.
- Provide a training program for emergency responders (including schedules).
- Provide methods and schedules for exercising emergency response plans.

Emergency Release Notifications (§304)

Facilities must notify the Local Emergency Planning Committee (LEPC) and State Emergency Response Commission (SERC) if there is a release into the environment of a hazardous substance that is equal to or exceeds the minimum **reportable quantity** set in the regulations. This requirement covers the 356 extremely hazardous substances and more than 700 hazardous substances subject to the emergency notification requirements under CERCLA. Initial notification can be made by telephone, radio, or in person. Emergency notification requirements involving transportation incidents can be met by dialing 911 or, in the absence of a 911 emergency number, by calling the operator. Emergency notification must include:

- The chemical name.
- An indication of whether the substance is extremely hazardous.
- An estimate of the quantity released into the environment.
- The time and duration of the release.
- Whether the release occurred into air, water, and/or land.
- Any known or anticipated acute or chronic health risks associated with the emergency, and where necessary, advice regarding medical attention for exposed individuals.
- Proper precautions, such as evacuation or sheltering in place.
- Name and telephone number of a contact person.

Hazardous Chemical Storage Reporting Requirements (§311-312) “Right To Know”

Under Occupational Safety and Health Administration (OSHA) regulations, employers must maintain a Material Safety Data Sheet (MSDS) for any hazardous chemicals stored or used in the workplace. SARA Title III, §311 requires facilities that have MSDSs for chemicals held above certain quantities to submit either copies of their MSDSs or a list of MSDS chemicals to the SERC, LEPC, and local fire department. If the facility owner or operator chooses to submit a list of MSDS chemicals, the list must include the chemical or common name of each substance and must identify the following applicable hazard categories:

- Immediate (acute) health hazard
- Delayed (Chronic) health hazard
- Fire hazard
- Sudden release of pressure hazard
- Reactive hazard

Facilities covered by §311 must, under §312, submit an emergency and hazardous chemical inventory form annually to the LEPC, the SERC, and the local fire department.

Toxic Chemical Release Inventory (§313)

EPCRA §313 requires the following facilities to complete a Toxic Chemical Release Inventory (TCRI) Form annually for specified chemicals:

- Manufacturing
- Metal mining
- Coal mining
- Electrical utilities that combust coal and/or oil
- Resource Conservation and Recovery Act (RCRA) Subtitle C hazardous waste treatment and disposal facilities
- Chemicals and allied products wholesale distributors
- Petroleum bulk plants and terminals
- Solvent recovery services

The form must be submitted to the EPA and the State on July 1 and cover releases and other waste management of toxic chemicals that occurred during the preceding calendar year. One purpose of this reporting requirement is to inform the public and government officials about releases and other waste management of toxic chemicals.

In addition, the Pollution Prevention Act of 1990 requires collection of information on source reduction, recycling, and treatment. EPA maintains a national TRI database.

When facilities fail to comply with reporting requirements, EPCRA allows for civil and administrative penalties ranging from \$10,000 to \$75,000 per violation per day. Criminal penalties of up to \$50,000 or 5 years in prison apply to any person who knowingly and willfully fails to provide emergency release notification. Penalties of not more than \$20,000 and/or up to 1 year in prison apply to any person who knowingly and willfully discloses any information entitled to protection as a trade secret.

Resource Conservation and Recovery Act (RCRA) Summary

The Resource Conservation and Recovery Act (RCRA) was enacted in 1976. RCRA focuses on active and future facilities and does not address abandoned or historical sites, which are regulated under CERCLA.

Although the primary objective of RCRA is to protect human health and the environment, the Act also provides assistance to State and local governments in prohibiting open dumping; regulating the management of hazardous wastes; encouraging recycling, reuse, and treatment of hazardous wastes; providing guidelines for solid waste management; and promoting beneficial solid waste management, resource recovery, and resource conservation systems.

RCRA, as amended by the Hazardous and Solid Waste Amendments (HSWA) and several Executive Orders, gives the EPA the authority to control hazardous waste generation, transportation, treatment, storage, and disposal.

HSWA required the phasing out of land disposal of hazardous waste and increased the EPA's enforcement authority by providing more stringent hazardous waste management standards, and a comprehensive underground storage tank program.

RCRA requires the issuance of operating permits to hazardous waste treatment, storage, and disposal facilities and requires "cradle-to-grave" tracking of hazardous waste through a recordkeeping and labeling system that requires the manifesting of hazardous waste shipments for point of generation to the ultimate point of disposal. Under the Act, hazardous wastes accumulating for more than 90 days requires a storers' permit. Also, generators of hazardous waste must certify that they have implemented a hazardous waste minimization program.

Under RCRA, hazardous waste is defined as wastes that exhibit certain characteristics (e.g., burn readily, reactivity) or contain more than specified amounts of toxic chemicals. In line with these definitions, EPA developed a list of more than 500 specific hazardous wastes.

Underground storage tanks are managed by EPA or by States with EPA-approved programs. RCRA requires written records demonstrating compliance of the design and operations of underground storage tanks and notification to the EPA or State agency of any release from an underground storage tank within 24 hours.

RCRA also controls some nonhazardous solid waste, including municipal solid waste, some sludges, some semisolid and liquid wastes, construction waste, household hazardous waste, and old and gas waste.

RCRA requirements must be integrated with other laws and regulations to the degree practical.

DOT Regulations

DOT regulations govern the transportation of HazMat throughout the United States and in U.S. territorial waters. These regulations cover:

- Placards, labels, and marks.
- Licenses (both shippers' licenses and drivers' licenses).
- Documentation.

Placarding Requirements

Title 49 of the U.S. Code of Federal Regulations (49 CFR) requires the use of hazardous materials placards when shipping hazardous materials cargo and dangerous goods in the United States. Canada and Mexico also have similar regulations that require the use of these placards. Placards must be displayed on the front, back, and both sides of a truck, trailer, or tanker carrying hazardous materials.

The DOT placarding system has been established for nine hazard classes:

- Class 1, Explosives
- Class 2, Flammable or Poisonous Gases
- Class 3, Flammable Liquids
- Class 4, Flammable Solids
- Class 5, Oxidizers
- Class 6, Poisonous Liquids
- Class 7, Radioactive Materials
- Class 8, Corrosive Liquids
- Class 9, Miscellaneous
 - Division 9.1, Miscellaneous dangerous goods (Canada)
 - Division 9.2, Environmentally hazardous substances (Canada)
 - Division 9.3, Dangerous Wastes (Canada)

Placards are diamond shaped. Each class of placard is distinctive in color and is labeled in three ways:

- A symbol representing the hazard class is displayed at the top of the placard.
- Words describing the hazard class are printed in block letters across the middle of the placard.
- The class number (including subclass, where appropriate) is displayed at the bottom of the placard.

In cases where loads are mixed, the load may be placarded as Class 9, Miscellaneous, with a Dangerous Goods placard, or the placard representing the most dangerous or predominant chemical in the load may be displayed. Typically chemicals in shipment display only one placard.

Labeling Requirements

Placards are placed on vehicles. Labels are placed on the goods or containers themselves. Labeling is required for all:

- Nonbulk packages.
- Bulk packaging other than a cargo tank, portable tank, or tank car with a capacity of less than 640 cubic feet, unless placarded.
- Portable tanks of less than 1,000 gallons, unless placarded.
- Multicar tanks, unless placarded.
- Overpacks, freight containers, or unit load devices of less than 640 cubic feet capacity that contain materials that are required to be placarded.
- Hazardous materials meeting one or more hazard class definitions in Table 1 (49 CFR § 172.101).

These requirements are very specific. Penalties may be assessed for misuse of labels including labeling a material as hazardous when it is not.

Labeling specifications include:

- **Visibility.** Labels must be clearly visible and not obscured by markings or other attachments to the package.
- **Durability.** Labels must be able to withstand a 30-day exposure to conditions without deterioration or a substantial change in color.
- **Design.** Labels must conform to those shown in 49 CFR, §§ 172.411 through 172.448 (except for color and size).
- **Size.** Labels must be at least 3.9 inches on each side, and each side must have a solid line as an inner border.
- **Color.** Background colors are specified in §§ 172.411 through 172.448. With few exceptions, the symbol, text, numbers, and border must be black.
- **Form identification.** Labels may contain form identification, including the maker's name, but this information must be printed outside the label border.

There are also restrictions on the use of labels:

- **Only hazardous materials may be labeled.** It is unlawful for carriers to represent a nonhazardous material as a hazardous material.
- **Labels must reflect the hazard class of the packaged material.** For example, if the packaged material is an oxidizer, labeling it as a flammable solid is prohibited.
- **Labels used may not conflict with labels prescribed in 49 CFR, Subpart E.** This prohibition includes color, design, and shape. For example, a label that identifies an oxidizer cannot include red and white stripes that are characteristic of flammable solids.

Marking Requirements

Markings include additional information that is required to be placed on:

- Packages.
- Freight containers.
- Transport vehicles.

Markings generally include the:

- Proper shipping name of the hazardous material.
- Identification (UN) number.
- Orientation symbols or other warnings (e.g., hot, inhalation hazard, marine pollutants).

Requirements for markings are included in 49 CFR, Subpart D.

Markings must be:

- **Durable**, in English, and printed on or affixed to the surface of a package or on a label, tag, or sign.
- **Displayed on a background** of sharply contrasting color.
- **Unobscured** by labels or attachments.
- **Located away from other markings** that could reduce its effectiveness.

Licensing Requirements

DOT requires special licenses for the transport and delivery of certain materials, such as radioactive materials, materials with both commercial and military uses, and certain other hazardous materials. These licenses must include:

- The producer's name, address, and phone number.
- The proper chemical name.
- An indication of whether the substance is extremely hazardous.
- Any known or anticipated acute or chronic health risks associated with the emergency, and where necessary, advice regarding medical attention for exposed individuals.
- Proper precautions, such as evacuation or sheltering in place.
- The receiver's name, address, and phone number.
- An emergency contact phone number.

The transport of certain hazardous materials, such as gasoline or propane, require endorsements to the driver's commercial drivers license (CDL).

DOT regulations (49 CFR 177.804) specify that motor carriers and other persons subject to part 177, Carriage by Public Highway, shall also comply with 49 CFR, parts 370 through 397 (also known as the Federal Motor Carrier Safety Regulations) to the extent that those regulations apply.

Documentation Requirements

Shipping papers must be provided for all HazMat being shipped. The shipper is required to present documentation, including shipping papers waybills, airbills, bills of lading, or hazardous waste manifests, if required.

DOT specifies every entry that must be included on shipping papers as well as the order in which the entries must be made.

DOT specifies three ways that shippers can identify hazardous materials on shipping papers:

- List all hazardous materials first.
- Highlight hazardous materials in a contrasting color.
- Mark the hazardous material entry with an “X,” “RQ” (reportable quantity), or “MP” (marine pollutant) to the left of the entry.

Each person who provides a shipping paper must retain a copy of the shipping paper required by § 172.200(a), or an electronic image thereof, that is accessible at or through its principal place of business and must make the shipping paper available, upon request, to an authorized official of a Federal, State, or local government agency at reasonable times and locations. For a hazardous waste, the shipping paper copy must be retained for 3 years after the material is accepted by the initial carrier. For all other hazardous materials, the shipping paper copy must be retained for 375 days after the material is accepted by the initial carrier.

Shipping papers must contain an emergency response telephone number, as part of DOT’s Hazardous Materials Communications Requirements, as outlined in §172.604.

DOT requires a complete description of hazardous materials in transport. This information is also on the waybill:

- The proper shipping name (anhydrous methylamine)
- The hazard class (2.1)
- The UN number (1061)
- Packing group (I)
- The fact that this chemical has an RQ
- The quantity of material being shipped

All shippers are required to certify that hazardous materials being offered for transport are in accordance with DOT regulations (49 CFR). This certification must be printed on the documentation.

OSHA Regulations

OSHA regulations govern hazardous materials in the workplace, including:

- Emergency planning requirements for facilities that produce, store, or use HazMat.
- Training requirements for those working with or around HazMat.
- Emergency response operations.

OSHA also specifies the training and equipment requirements for HazMat response personnel and the implementation of the Incident Command System (ICS) to manage all HazMat responses.

OSHA Emergency Planning Requirements

OSHA requires that all facilities that produce, use, or store toxic and hazardous substances develop a written emergency plan that includes actions employers and employees must take to ensure employee safety from fire and other emergencies. Emergency plans must include:

- Emergency escape procedures and emergency route assignments.
- Procedures to be followed by employees who remain for critical plant operations.
- Procedures to account for all employees after evacuation.
- Rescue and medical duties for employees who are to perform them.
- The preferred means of reporting emergencies.
- Names or regular job titles of persons or departments who can be contacted for additional information or explanation of duties under the plan.

Under this regulation (29 CFR, §1910.38), employers are also required to establish an employee alarm system for use during emergencies.

For employers with more than 10 employees, the plan must be maintained at the workplace and made available for employee review.

OSHA Training Requirements

OSHA requires that, before implementing any emergency response plan, employers must designate and train employees to assist with the evacuation. Employers are also required to review with employees fire hazards and hazardous materials and/or processes to which employees may be exposed.

OSHA regulations (§1910.120) also require training for:

- Equipment operators, laborers, supervisory personnel, and others who are engaged in hazardous substance removal or other activities that expose, or potentially expose them to hazardous substances and health hazards.
- Workers who are on site only occasionally to perform specific, limited tasks and who are unlikely to be exposed over permissible exposure limits.
- Workers who are regularly on site who work in areas that have been monitored and found to be under permissible exposure limits and not at risk of health hazard or the possibility of an emergency developing.
- Onsite managers and supervisors who are directly responsible for hazardous waste operations.
- Employees who are engaged in responding to hazardous emergency situations.

OSHA specifies the amount of initial training and refresher training for each of these groups as well as credentials required for trainers and for training certification. These training requirements are shown below.

29 CFR 1910.120 (e): HAZWOPER Training

Initial training.

General site workers (such as equipment operators, general laborers, and supervisory personnel) engaged in hazardous substance removal or other activities that expose or potentially expose workers to hazardous substances and health hazards shall receive a minimum of 40 hours of instruction off the site, and a minimum of three days actual field experience under the direct supervision of a trained experienced supervisor.

Workers on site only occasionally for a specific limited task (such as, but not limited to, ground water monitoring, land surveying, or geophysical surveying) and who are unlikely to be exposed over permissible exposure limits and published exposure limits shall receive a minimum of 24 hours of instruction off the site, and the minimum of one day actual field experience under the direct supervision of a trained, experienced supervisor.

Workers regularly on site who work in areas that have been monitored and fully characterized indicating that exposures are under permissible exposure limits and published exposure limits where respirators are not necessary, and the characterization indicates that there are no health hazards or the possibility of an emergency developing, shall receive a minimum of 24 hours of instruction off the site, and the minimum of one day actual field experience under the direct supervision of a trained, experienced supervisor.

Workers with 24 hours of training who are covered by paragraphs (e)(3)(ii) and (e)(3)(iii) of this standard, and who become general site workers or who are required to wear respirators, shall have the additional 16 hours and two days of training necessary to total the training specified in paragraph (e)(3)(i).

Management and supervisor training. On-site management and supervisors directly responsible for or who supervise employees engaged in hazardous waste operations shall receive 40 hours initial and three days of supervised field experience (the training may be reduced to 24 hours and one day if the only area of their responsibility is employees covered by paragraphs (e)(3)(ii) and (e)(3)(iii) of this standard and at least eight additional hours of specialized training at the time of job assignment on such topics as, but not limited to, the employer's safety and health program, personal protective equipment program, spill containment program, and health hazard monitoring procedure and techniques.

Qualifications for trainers. Trainers shall be qualified to instruct employees about the subject matter that is being presented in training. Such trainers shall have satisfactorily completed a training program for teaching the subjects they are expected to teach, or they shall have the academic credentials and instructional experience necessary for teaching the subjects. Instructors shall demonstrate competent instructional skills and knowledge of the applicable subject matter.

Training certification. Employees and supervisors that have received and successfully completed the training and field experience specified in paragraphs (e)(1) through (e)(4) of this standard shall be certified by their instructor or the head instructor and trained supervisor as having completed the necessary training. A written certificate shall be given to each person so certified. Any person who has not been so certified or who does not meet the requirements of paragraph (e)(9) of this standard shall be prohibited from engaging in hazardous waste operations.

Emergency response. Employees who are engaged in responding to hazardous emergency situations at hazardous waste clean up sites that may expose them to hazardous substances shall be trained in how to respond to such expected emergencies.

Refresher training. Employees specified in paragraph (e)(1) of this standard, and managers and supervisors specified in paragraph (e)(4) of this standard, shall receive 8 hours of refresher training annually on the items specified in paragraph (e)(2) and/or (e)(4) of this standard, any critique of incidents that have occurred in the past year that can serve as training examples of related work, and other relevant topics.

29 CFR 1910.120 (p) Treatment, Storage and Disposal Facilities**Training program**

New employees. The employer shall develop and implement a training program which is part of the employer's safety and health program, for employees exposed to health hazards or hazardous substances at TSD operations to enable the employees to perform their assigned duties and functions in a safe and healthful manner so as not to endanger themselves or other employees. The initial training shall be for 24 hours and refresher training shall be for 8 hours annually. Employees who have received the initial training required by this paragraph shall be given a written certificate attesting that they have successfully completed the necessary training.

Current employees. Employers who can show by an employee's previous work experience and/or training that the employee has had training equivalent to the initial training required by this paragraph, shall be considered as meeting the initial training requirements of this paragraph as to that employee. Equivalent training includes the training that existing employees might have already received from actual site work experience. Current employees shall receive eight hours of refresher training annually.

Trainers. Trainers who teach initial training shall have satisfactorily completed a training course for teaching the subjects they are expected to teach or they shall have the academic credentials and instruction experience necessary to demonstrate a good command of the subject matter of the courses and competent instructional skills.

29 CFR 1910.120 (q): Emergency Response Training

Training. Training shall be based on the duties and functions to be performed by each responder of an emergency response organization. The skill and knowledge levels required for all new responders, those hired after the effective date of this standard, shall be conveyed to them through training before they are permitted to take part in actual emergency operations on an incident. Employees who participate, or are expected to participate, in emergency response, shall be given training in accordance with the following paragraphs:

First responder awareness level. First responders at the awareness level are individuals who are likely to witness or discover a hazardous substance release and who have been trained to initiate an emergency response sequence by notifying the proper authorities of the release. They would take no further action beyond notifying the authorities of the release. First responders at the awareness level shall have sufficient training or have had sufficient experience to objectively demonstrate competency in the following areas:

- An understanding of what hazardous substances are, and the risks associated with them in an incident.
- An understanding of the potential outcomes associated with an emergency created when hazardous substances are present.
- The ability to recognize the presence of hazardous substances in an emergency.
- The ability to identify the hazardous substances, if possible.
- An understanding of the role of the first responder awareness individual in the employer's emergency response plan including site security and control and the U.S. Department of Transportation's Emergency Response Guidebook.
- The ability to realize the need for additional resources, and to make appropriate notifications to the communication center.

First responder operations level. First responders at the operations level are individuals who respond to releases or potential releases of hazardous substances as part of the initial response to the site for the purpose of protecting nearby persons, property, or the environment from the effects of the release. They are trained to respond in a defensive fashion without actually trying to stop the release. Their function is to contain the release from a safe distance, keep it from spreading, and prevent exposures. First responders at the operational level shall have received at least 8 hours of training or have had sufficient experience to objectively demonstrate competency in the following areas in addition to those listed for the awareness level and the employer shall so certify:

- Knowledge of the basic hazard and risk assessment techniques.
- Know how to select and use proper personal protective equipment provided to the first responder operational level.
- An understanding of basic hazardous materials terms.
- Know how to perform basic control, containment and/or confinement operations within the capabilities of the resources and personal protective equipment available with their unit.
- Know how to implement basic decontamination procedures.
- An understanding of the relevant standard operating procedures and termination procedures.

Hazardous materials technician. Hazardous materials technicians are individuals who respond to releases or potential releases for the purpose of stopping the release. They assume a more aggressive role than a first responder at the operations level does in that they will approach the point of release in order to plug, patch, or otherwise stop the release of a hazardous substance. Hazardous materials technicians shall have received at least 24 hours of training equal to the first responder operations level and in addition have competency in the following areas and the employer shall so certify:

- Know how to implement the employer's emergency response plan.
- Know the classification, identification, and verification of known and unknown materials by using field survey instruments and equipment.
- Be able to function within an assigned role in the Incident Command System.
- Know how to select and use proper specialized chemical personal protective equipment provided to the hazardous materials technician.
- Understand hazard and risk assessment techniques.
- Be able to perform advance control, containment, and/or confinement operations within the capabilities of the resources and personal protective equipment available with the unit.
- Understand and implement decontamination procedures.
- Understand termination procedures.
- Understand basic chemical and toxicological terminology and behavior.

Hazardous materials specialist. Hazardous materials specialists are individuals who respond with and provide support to hazardous materials technicians. Their duties parallel those of the hazardous materials technician; however, those duties require more directed or specific knowledge of the various substances they may be called upon to contain. The hazardous materials specialist would also act as the site liaison with Federal, state, local and other government authorities in regards to site activities. Hazardous materials specialists shall have received at least 24 hours of training equal to the technician level and in addition have competency in the following areas and the employer shall so certify:

- Know how to implement the local emergency response plan.
- Understand classification, identification and verification of known and unknown materials by using advanced survey instruments and equipment.
- Know the State emergency response plan.
- Be able to select and use proper specialized chemical personal protective equipment provided to the hazardous materials specialist.
- Understand in-depth hazard and risk techniques.
- Be able to perform specialized control, containment, and/or confinement operations within the capabilities of the resources and personal protective equipment available.
- Be able to determine and implement decontamination procedures.
- Have the ability to develop a site safety and control plan.
- Understand chemical, radiological, and toxicological terminology and behavior.

On scene incident commander. Incident commanders, who will assume control of the incident scene beyond the first responder awareness level, shall receive at least 24 hours of training equal to the first responder operations level and in addition have competency in the following areas, and the employer shall so certify:

- Know and be able to implement the employer's incident command system.
- Know how to implement the employer's emergency response plan.
- Know and understand the hazards and risks associated with employees working in chemical protective clothing.
- Know how to implement the local emergency response plan.
- Know of the State emergency response plan and of the Federal Regional Response Team.
- Know and understand the importance of decontamination procedures.

Trainers. Trainers who teach any of the above training subjects shall have satisfactorily completed a training course for teaching the subjects they are expected to teach, such as the courses offered by the U.S. National Fire Academy, or they shall have the training and/or academic credentials and instructional experience necessary to demonstrate competent instructional skills and a good command of the subject matter of the courses they are to teach.

Refresher training. Those employees who are trained in accordance with paragraph (q)(6) of this section shall receive annual refresher training of sufficient content and duration to maintain their competencies, or shall demonstrate competency in those areas at least yearly.

A statement shall be made of the training or competency, and if a statement of competency is made, the employer shall keep a record of the methodology used to demonstrate competency.

OSHA Emergency Response Requirements

OSHA also stipulates response requirements in the event of a release or spill of hazardous materials. These response requirements specify a written emergency response plan that must address the requirements below (if they are not included under other response plans):

- Preemergency planning and coordination with outside parties (e.g., local government, response agencies)
- Personnel roles, lines of authority, training, and communication
- Emergency recognition and prevention
- Safe distances and places of refuge
- Site security and control
- Evacuation routes and procedures
- Decontamination
- Emergency medical treatment and first aid
- Emergency alert and response procedures
- Critique of response and followup
- PPE and emergency equipment

Section 1910.120 of 29 CFR specifies that local and/or State emergency operations plans may be incorporated into site response plans to avoid duplication.

Under OSHA regulations, responding organizations **must** use the Incident Command System (ICS) to manage the response. Additionally, the regulations specify that all emergency responders and their communications **must** be coordinated through the Incident Commander.

State Regulations

States pass regulations that often have more stringent requirements than the Federal regulations. These regulations range from requiring State agencies to compile lists of substances that are harmful to humans and the environment to requiring employers to release information to the public about hazardous materials used and their possible effects on humans, animals, and the environment.

State regulations vary in scope. You will need to familiarize yourself with State requirements before beginning the planning process.

Local Laws and Ordinances

Often, local governments pass ordinances geared specifically to the jurisdiction. These ordinances usually deal with hazard- or situation-specific conditions in the local area. For example, a local government may restrict the transport of hazardous materials to certain routes or may require local industries to develop disclosures about the chemicals that they use and their potential harmful effects.

Be sure to check with local officials for copies of local ordinances that may be in force.

HazMat Planning as Part of Comprehensive Emergency Planning

You now know that hazardous materials are subject to specific emergency planning requirements. Planning for HazMat incidents, however, should not be separate from other emergency planning activities. To minimize duplication of effort, planning for HazMat incidents should be incorporated into the jurisdiction's all-hazard emergency planning effort.

The Basic Plan

The Basic Plan describes how the jurisdiction will do business in an emergency, and includes:

- The plan's purpose, the presumed situation, and any assumptions that affect how the plan is developed.
 - The jurisdiction's overall approach to an emergency.
 - The emergency organization.
 - The administrative and logistical support requirements for incident response.
 - How and how often the plan will be revised.
 - The authorities under which the plan was prepared.
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Annexes

Annexes describe key emergency functions that the plan will address. FEMA recommends that all plans include the following eight functions:

- Direction and Control
- Communications
- Warning
- Emergency Public Information (EPI)
- Evacuation
- Mass Care
- Health and Medical Services
- Resource Management

Some jurisdictions have included additional functions, such as damage assessment or radiological protection in their plans. The selection of functions to be included as annexes depends entirely on the needs of your jurisdiction.

Appendixes

Appendixes are used to describe the unique planning requirements for specific hazards that require special attention in planning or response. Information included in appendixes should focus on the **special planning needs** of the hazard and should not duplicate information found in functional annexes.

Given the special regulatory and response requirements, HazMat incident response plans should be included in a separate appendix.

Implementing Documents

Implementing documents:

- Include special procedures, instructions, recordkeeping, and other requirements for responders.
- Are developed at the agency level based on the requirements of the basic plan, annexes, and appendixes.

For example, specific procedures for diking a contaminated stream would be included as implementing documents.

Lesson Summary

The Federal Government establishes the basic requirements for HazMat planning, training, and emergency response. Federal requirements are augmented by State laws and local ordinances. Being aware of these requirements will help you develop a HazMat Appendix that is compliant.

HazMat planning should be part of a comprehensive emergency operations planning effort. FEMA recommends that jurisdictions organize their EOPs into a basic plan, functional annexes, and hazard-specific appendixes. Using this approach, HazMat planning would be included as an appendix to the EOP.
