OSHA Briefing to Regional States LEPCs

Understanding Hazardous Materials Incident Response Operations & Training Requirements

Doug Huddleston, *Certified Safety Professional*
OSHA Region VI
Emergency Response Coordinator
Cooperative & State Programs - Program Manager

Hazardous Waste Operations "Basics"

Description and Brief History

What is Hazardous waste? – 29 CFR 1910.120(a)(3) - Definitions

[A] OSHA/EPA – A waste or combination of wastes defined in 29 CFR 1910.120.3, or as defined in 40 CFR 261.3; [B] DOT – 49 CFR 171.8 - Any material subject to the Hazardous Waste Manifest Requirements of the US EPA specified in 40 CFR part 262.

What is a Hazardous Waste Operation? – 29 CFR 1910.120(a)(3) - Definitions

Hazardous waste operation means any operation conducted within the scope of this standard [29 CFR 1910.120] .

What is a Hazardous Waste Site

Hazardous Waste Site or "Site" means any facility or location within the scope of this standard [29 CFR 1910.120(a)(3)] at which hazardous waste operations take place.

Brief History

- Superfund Amendments and Reauthorization Act (SARA) section 126(a) was passed;
- SARA required the Secretary of Labor to issue standards under Section 6 of the OSH Act;
- On March 6, 1989, OSHA issued the final HAZWPOPER Standard (29 CFR 1910.120).

What are the principle guidelines currently in use today, regarding training?

- **29 CFR 1910.120(e)** – OSHA's Hazardous Waste Operations and Emergency Response
- National Fire Protection Association (NFPA) – Primarily **NFPA 472** – "Standard for Professional Competence of Responders to Hazardous Material Incidents"
- **NFPA 471** - "Recommended Practice for Responding to Hazardous Material Incidents."
- **NFPA 473 -** "Competencies for Emergency Medical Services Personnel Responding to Hazmat Incidents"

Hazardous Waste Operations "Basics"

Breaking Out the "HAZWOP" Part of "HAZWOP-ER"

The HAZWOPER regulations apply to five distinct response areas:

The first four (4) all fall under the training requirements set forth in 29 CFR 1910.120(e):

- Cleanup operations involving hazardous substances at uncontrolled waste sites;
- Corrective actions conducted at sites covered by the Resource Conservation and Recovery Act (RCRA) of 1976;
- Voluntary cleanup operations at sites recognized by governmental bodies as uncontrolled hazardous waste sites, and;
- Operations conducted at treatment, storage and disposal facilities regulated under 40 CFR 264-265 pursuant to RCRA or under agreement with the Environmental Protection Agency (US EPA).

An easy way to remember this is to think of these "four (4)" as the **"HAZWOP"** portion of the HAZWOPER – And, among others, covers **"General Site Workers"** working on sites, that require **40 hours** of initial training (thus the vernacular "when was your last 40-Hour"), **three (3) days** of supervised hands-on training, and **eight (8) hours** of refresher training annually.

- If the workers perform a specific limited task, or on work sites fully characterized with no hazardous substance levels above acceptable exposure limits, then **24 hour**s of initial training and **one (1) day** of hands-on training is acceptable (the eight hours of annual refresher still applies) – [1910.120(e)(ii)].

Scope and Application of the HAZWOPER Standard

Work Operation	HAZWOPER (Applicable Paragraphs)	Examples of Work Activities
Cleanup Operations ▪ Cleanup operations required by a governmental body or other operations involving hazardous substances that are conducted at uncontrolled hazardous waste sites. ▪ Corrective actions involving cleanup operations at sites covered by RCRA. ▪ Voluntary cleanup operations at sites recognized by federal, state, local, or other governmental bodies as uncontrolled hazardous waste sites.	**1910.120(b)-(o)**	▪ Site Characterization of Hazardous Waste Site ▪ Drum Removal ▪ Contaminated Soil Removal ▪ Underground Storage ▪ Tank (UST) Removal
Operations at TSD Facilities ▪ Operations involving hazardous waste conducted at TSD facilities regulated by 40 CFR 264 and 265 pursuant to RCRA or by agencies under agreement with RCRA the EPA to implement RCRA regulations.	**1910.120(p)**	▪ Treating Waste for Disposal at RCRA Landfill ▪ Handling Waste at RCRA Landfill
Emergency Response Operations ▪ Emergency response operations for releases of, or substantial threats of releases of, hazardous substances without regard to the location of the	**1910.120(q)**	▪ Response to the spill of a highly toxic substance from overturned 55-gallon drum ▪ Response to leaking storage tank ▪ Response to overturned truck carrying hazardous materials

First Responder-Awareness Level

The "ER" in "HAZWOP-ER" - Areas, Levels and Training

The last category of training requirements are listed in **29 CFR 1910.120(q)** and apply to **"E"**-mergency **"R"**-esponse operations for releases (or substantial threat of releases) of hazardous substances, regardless of the location. An easy way to recall this is to think of this portion as the **"ER"** portion of HAZWOPER. There are **5** levels of training under the emergency response guidelines along with a designation of "Specialist Employee."

- The first level, known as **First Responder-Awareness** (FRA) – This is defined as persons likely to witness an actual or potential hazardous materials incident and who can initiate notification procedures. No further actions are expected by personnel at the First Responder-Awareness level. There is no training time requirements associated with the First Responder-Awareness level.

First Responder-Operations Level

The "ER" in "HAZWOP-ER" - Areas, Levels and Training

The next level is **First Responder-Operations** (FRO). These personnel are generally among those first responders to releases or potential releases of hazardous substances to protect life, property, and the environment. They operate in a defensive fashion, meaning that they do not actively try to stop the release, and attempt to control it from a safe distance and try to minimize the spread of the release.

These personnel tend to be, members of the fire service as well as specially trained personnel from law enforcement, EMS, public works and engineering, and entities with similar response duties. A minimum of **8** hours of training (above the First Responder-Awareness level) is required to complete this level of training.

Training at the Operations level includes:

- Possess a working understanding of chemical toxicology; and
- Basic containment, confinement, and control techniques, including decontamination procedures.

Hazardous Materials Technician

The "ER" in "HAZWOP-ER" - Areas, Levels and Training

Hazardous Materials Technicians are personnel who respond with the actual intention of *stopping the release*, *operating in a more aggressive fashion* than those at the First Responder Operations level. These are the personnel that you may envision when you think of public safety hazardous materials response teams or industrial emergency response teams. The Hazardous Materials Technician requires at least **24** hours training, equal to the First Responder Operations level (8 hours required at the FRO level training).

Training at the Technician level includes:

- Knowledge of how to implement a response plan;
- How to classify, identify, and verify unknown materials using field survey equipment;
- Skills to perform advanced control, containment, and confinement techniques; and
- Decontamination techniques and procedures.

Hazardous Materials Specialist

The "ER" in "HAZWOP-ER" - Areas, Levels and Training

Hazardous Materials Specialists possess *specialized knowledge*, typically of various hazardous substances (such as chlorine or ammonia). They typically respond with and provide support to Hazardous Materials Technicians. They could also be requested to serve as a *liaison or agency representative* for a governmental response and/or regulatory authorities. These personnel shall receive at least **24** hours of training equal to the Hazardous Materials Technician level.

Training at the Specialist level includes:

- How to implement the Local Response Plan; - be familiar with the State Response Plan;
- Be able to perform specialized control, containment, and confinement techniques;
- How to develop a Site Safety and Health Plan; and
- Have a working knowledge of Chemical, Radiological and Toxicological terminology and behavior.

On-Scene Incident Commander

The "ER" in "HAZWOP-ER" - Areas, Levels and Training

On-Scene Incident Commanders are personnel designated by the authority having jurisdiction (AHJ) to take management control of actual incidents. These personnel shall receive at least **24** hours of training equal to the **First Responder-Operations** (FRO) level before being designated as On-Scene Incident Commanders.

Training at the On-Scene Incident Commander level includes:

- Details on how to implement and operate within their employer's incident command system, as well as the employer's emergency response plan; Understand the hazards and risks associated with employees working in chemical protective clothing; Effectiveness of the Decontamination Process; as well as Understanding details on Local and State emergency response plans.

HAZWOPER Training "Breakdown"

Training Requirements – Emergency Response Operations [29 CFR 1910.120(q)(6)]	
Responder Description – Duties	**Training Level – Hours**
First Responder Awareness Level (Witnesses or discovers a release of hazardous substances and is trained to notify the proper authorities)	Sufficient initial training and competencies *Annual refresher
First Responder Operations Level (Responds to the releases of hazardous substances in a defensive manner, without trying to stop the release)	***8 hours*** initial training and competencies *Annual refresher
Hazardous Materials Technician (Responds aggressively to stop the release of hazardous substances)	***24 hours*** initial training and competencies * Annual refresher
Hazardous Materials Specialist (Responds with and in support of HAZMAT technicians, but who have specific knowledge of various hazardous substances)	***24 hours*** initial training and competencies *Annual refresher
On Scene Incident Commander (Assumes control of the incident scene beyond the first responder awareness level)	***24 hours*** initial training and competencies * Annual refresher

NFPA and OSHA HAZWOPER Differences

The National Fire Protection Association (NFPA)-472 established no training hour requirements but has similar levels of training and duty designations (see table below):

NFPA 472 (Chapter / Skill Set)	OSHA 1910.120 (Skill Set)
Chapter 4 – Awareness Level Personnel	1910.120(q)(6)(i) – First Responder Awareness
Chapter 5 – Operations Level Responders	1910.120(q)(6)(ii) – First Responder Operations
Chapter 6/7 – Hazardous Materials Technician	***1910.120(q)(6)(iii) – Hazardous Materials Technician (HMT)***
Chapter 8 – Incident Commander	1910.120(q)(6)(v) – On-Scene Incident Commander
Chapter 9 – Private Sector Specialist Employee	1910.120(q)(5) – Specialist Employee
Chapter 10 – Hazardous Materials Officer	No equivalent currently in OSHA HAZCOM
Chapter 11 – Hazardous Materials Safety Officer	**1910.120(q)(3)(vii) – IC appoints Safety Officer**
Chapter 12 – Tech with Tank Car – Chap 13 Cargo Tank	No OSHA equivalent – but role is filled by **HMT**
Chapter 14 – Tech with Intermodal Tank Specialty	No OSHA equivalent – but role is filled by **HMT**

Guidelines for Hazmat/WMD Response

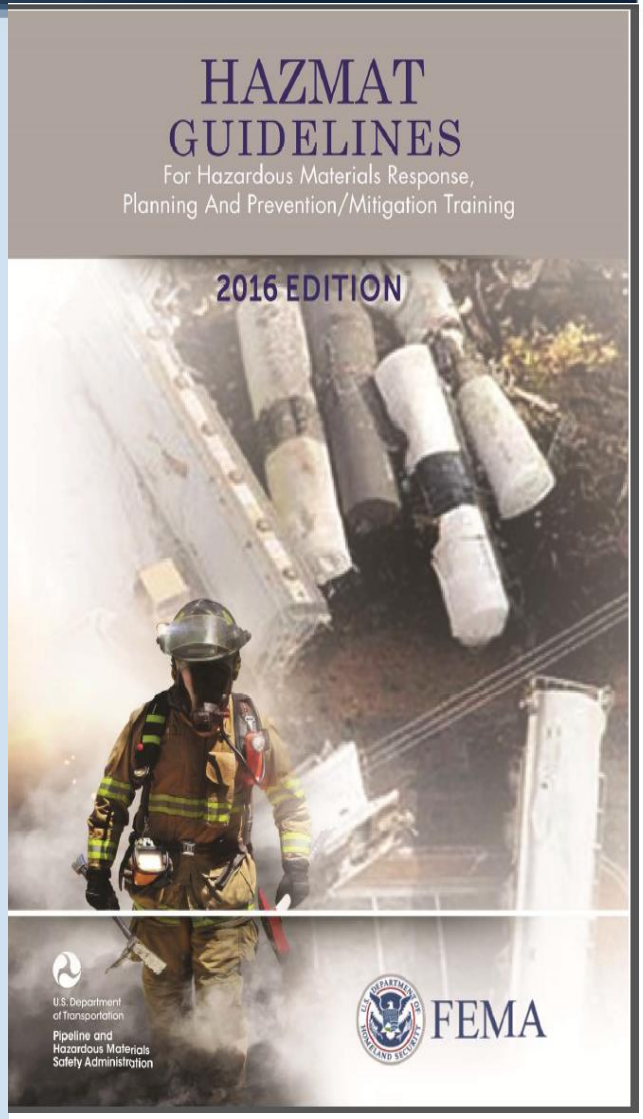
Planning and Prevention Training

https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/docs/03_Response_Training_Considerations_2016_508_Compliant.pdf

A good reference available to help formulate a training plan would be the "Hazmat Guidelines for Hazardous Materials Response, Planning and Prevention/Mitigation Training" document. This document was created under the Hazardous Materials Emergency Preparedness (HMEP) Grant Program, which was a joint, multi-agency effort (Emergency Management Institute (EMI) Department of Transportation (DOT), US EPA, OSHA, NFPA + individual state agencies).

The purpose of its development was to:

- Function as a tool for State self-assessment ensuring courses funded comply with curriculum; and
- Assist State, Tribal, and local municipalities in the development of hazardous materials response training programs and response plans.



Guidelines for Hazmat / WMD Response, Planning and Prevention (HMEP) Training

Sections and Objectives - The Guidelines are organized into 15 sections – The 1st section addresses general response training issues - The 2nd through 14th sections contain the training objectives for each competency area of response role that a public sector employee may be required to perform during a hazmat incident.

1st Section – General Training Issues:

- Employers' legal responsibilities for training
- Challenge of training to competency
- Response competency definition;
- General methodology and testing considerations
- Refresher training
- Instructor qualifications

2nd through 14th Sections – Training Objectives

- Awareness Level Personnel
- First Responder Operations
- Core Competencies for Operations Level
- Mission Specific Competencies for Operations Level
- Hazardous Materials Technician
- Hazardous Materials Technician w/Specialties
- Incident Commander
- OSHA-Specialist Employee and NFPA – Specialist Employees “A” “B” and “C”
- Hazmat Basic Life Support Responder
- Hazmat Advanced Life Support Responder
- Hospital First Receivers

Guidelines for Hazmat / WMD Response, Planning and Prevention (HMEP) Training

Employers' Training Requirements - Employers must ensure that employees receive training in emergency response to hazardous materials incidents, based on their expected duties and functions. This training must be performed before employees are permitted or expected to perform their duties in an actual emergency response. *Employers are responsible for:*

- Determining the appropriate level of training required (based on expected actions of employees, as stated in the agency's SOPs);
- Selecting qualified, competent instructors;
- Providing annual refresher training sufficient to maintain competencies;
- Maintain a record of demonstrated competencies (or show competency demonstration).

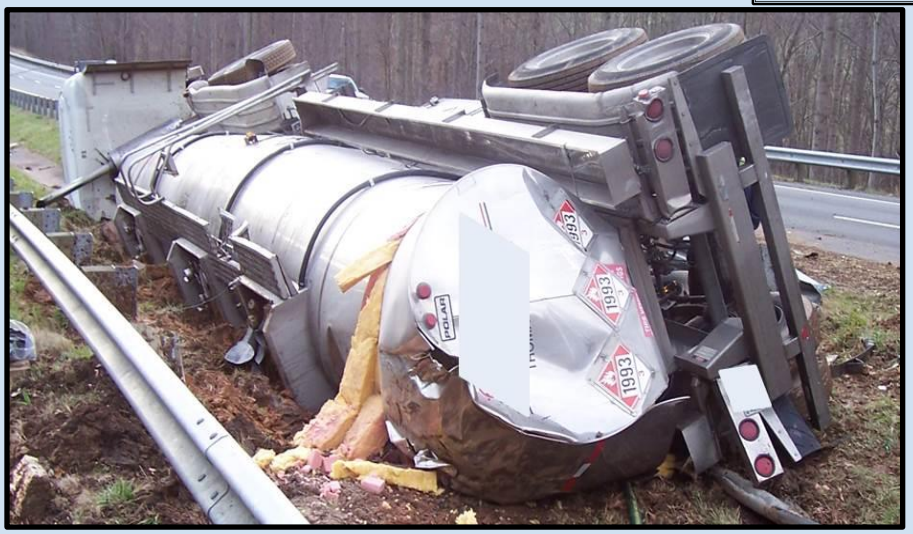
The Challenge of Competency:

- Training needs to be conducted for personnel who address planning, safety, response and technical programs – *No single course can fit the needs of the response audience*; and
- *Volunteers* and/or part-time employees present a specific challenge – it's incumbent on employers to determine what constitutes minimal level of training.

OSHA - First Responder-Awareness Level
NFPA – Awareness Level Personnel

Competencies – Objective 1. - Analyze the Incident : ✓Detect Presence of Hazmat; ✓Identify UN/DOT hazard classes; ✓Identify typical occupancies and locations in community where Hazmat/WMD is manufactured, transported, stored, used, or disposed of.

Courtesy Getty images



Competencies – Objective 2. - Implement Planned Response : ✓Identify local emergency response plan and standard operating procedures; ✓Be able to identify general routes of entry for human exposure; ✓Describe differences between large and small spills; ✓Describe stand-off distances (as defined in Emergency Response Guidebook); ✓*Identify at least four (4) specific actions necessary when suspected criminal or terrorist activity is suspected.*

Hazardous Materials Incident Response Curriculum Guidelines

Awareness Level Personnel

“Methodology Recommendations”
- Provides potential training methods:

- ✓ Combination of Lecture and Media
- ✓ Individual or Small-group Exercise
- ✓ Intervals of 30 to 45 minutes
- ✓ Course can range from 4 to 16 hours in length
- ✓ Activities can consist of activities that practice Identification and Recognition of Hazmat from scenarios and descriptions
- ✓ Can incorporate the North American Emergency Response Guidebook (ERG)

Methodology Descriptions →

Introduction

Awareness level personnel shall be trained to meet all competencies of the awareness level. In addition, the awareness level shall receive training to meet requirements of the Occupational Safety and Health Administration, local occupational health and safety regulatory agencies, or Environmental Protection Agency, as appropriate for their jurisdictions. Members of any organization that respond or can be expected to respond to a hazardous materials incident must know the requirements of the OSHA 1910.120 and EPA 311 training and emergency response plan.

Definition

The awareness level personnel are personnel who are likely to witness or discover a hazardous materials/WMD emergency or, in the course of their normal duties, may be the first persons on the scene of an emergency involving hazardous materials. The awareness level personnel are expected to recognize that hazardous materials are present, protect themselves, call for trained personnel, and secure the area. The most important duty of these personnel is to make proper notification to begin the emergency response sequence. The first responders' role at this level should involve no potential for their exposure to the hazards related to an incident.

Training Audience

Awareness level personnel may be employed by public- or private-sector organizations, such as fire or emergency medical services, law enforcement, emergency management, public works, public health, utilities, and transportation, as well as volunteer agencies and manufacturers, guard and security services, and contractors.

Methodology Recommendations

The training method can use a combination of lecture and media presentations with individual or small-group exercises at intervals of 30 to 45 minutes. A course can range from 4 to 16 hours in length. The exercises can consist of activities that practice identification and recognition of hazardous materials from scenario descriptions and can use information sources such as the North American Emergency Response Guidebook to establish the presence of the hazardous materials described in the scenarios.

Refresher training should focus on renewing the skill of employees in using information sources to recognize and identify hazardous materials.

Target Training to a Specific Occupational Group

Persons training for the awareness level are a diverse group, including police, fire, emergency medical services, public works, emergency management, and transportation

Methodology Descriptions:

- ✓ Training to Specific Occupational Groups
- ✓ Training should be tailored to meet the needs of specific group your targeting
- ✓ Trainees from a specific discipline or profession should have training scenarios specific to their line of work.
- ✓ Training managers should recruit and train Instructors from a variety of occupations.

"Summary of Training Requirements"

Provides a guide in table form to address:

- Audience
- Training - Competencies
- Prerequisites
- Refresher training requirements

personnel. Although the minimal competencies for all personnel remain the same, whenever possible training should be tailored to meet the needs of specific groups. Trainees from a specific discipline or profession should be asked to respond to scenarios that are relevant to their work. They should play roles that are consistent with their occupational responsibilities. Training managers should recruit and train instructors from a variety of occupations. Training materials should depict awareness in multiple situations. Major changes to the curriculum should not be necessary; in most cases, an instructor simply must be sensitive to the audience and its needs and use realistic scenarios.

Summary of Training Requirements

Awareness Level Personnel

Audience

Broad. All who might encounter a haz mat/WMD incident.

Prerequisites

None.

Training

- No length required. 4-16 hours is common practice.
- Traditional classroom or seminar format. E-learning may be appropriate for some audiences.
- Competencies:
  - Detect the presence of hazardous materials
  - Identify hazardous materials present
  - Collect hazard information
  - Initiate the notification process

Refresher

Annual. Refresh skills in detection and identification, instruct on new and emergent hazards, refresh skills in notification and instruct on notification protocol changes.

Federal Requirements for Awareness Training

OSHA establishes the following training requirements for the awareness level.

OSHA 29 CFR 1910.120(q)(6)(i)

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 authorities of the release. The awareness level shall have sufficient training or have had sufficient experience to objectively demonstrate competency in the following areas:

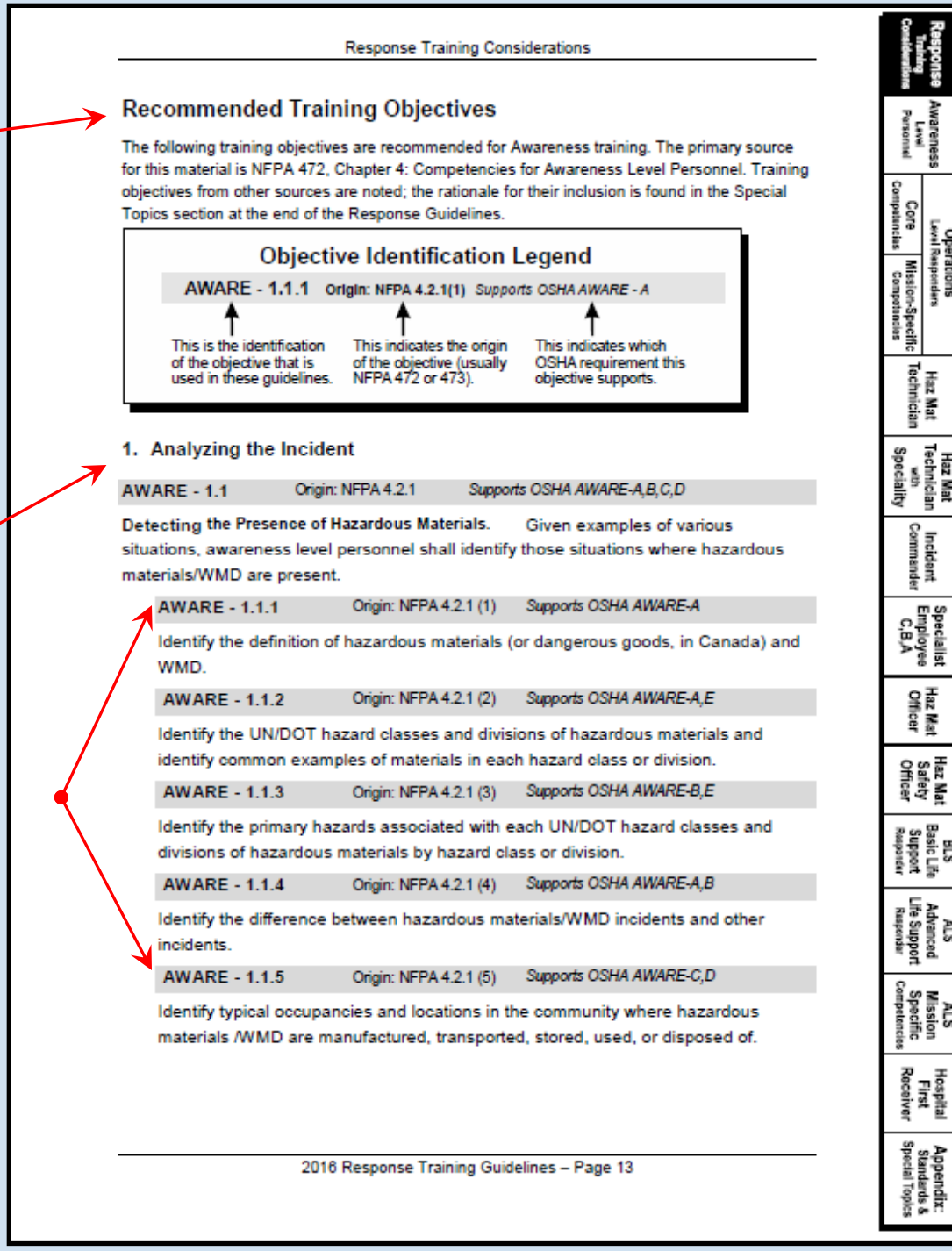
(a) An understanding of what hazardous substances are, and the risks associated with them in an incident.

(b) An understanding of the potential outcomes associated with an emergency created when hazardous substances are present.

Required and Recommended Training Objectives

Recommended Training Objectives:

- ✓ Incorporates the OSHA 1910.120 requirements with the NFPA 472 Chapter "Competencies"
- ✓ Task is "Analyze the Incident"
- ✓ "AWARE" 1.1 ties together NFPA Chapter 4 Competencies and OSHA 1910.120 regulatory requirements
- ✓ "AWARE" 1.1.1 further defines a means to accomplish the required training, and obtain a level of proficiency
- ✓ "Detecting the Presence of Hazardous Materials" is the overall "Objective" and sub-tasks and competencies follow in the successive "AWARE" sections



Recommended Training Objectives

The following training objectives are recommended for Awareness training. The primary source for this material is NFPA 472, Chapter 4: Competencies for Awareness Level Personnel. Training objectives from other sources are noted; the rationale for their inclusion is found in the Special Topics section at the end of the Response Guidelines.

Objective Identification Legend

AWARE - 1.1.1 Origin: NFPA 4.2.1(1) *Supports OSHA AWARE - A*

- This is the identification of the objective that is used in these guidelines.
- This indicates the origin of the objective (usually NFPA 472 or 473).
- This indicates which OSHA requirement this objective supports.

1. Analyzing the Incident

AWARE - 1.1 Origin: NFPA 4.2.1 *Supports OSHA AWARE-A,B,C,D*

Detecting the Presence of Hazardous Materials. Given examples of various situations, awareness level personnel shall identify those situations where hazardous materials/WMD are present.

AWARE - 1.1.1 Origin: NFPA 4.2.1 (1) *Supports OSHA AWARE-A*

Identify the definition of hazardous materials (or dangerous goods, in Canada) and WMD.

AWARE - 1.1.2 Origin: NFPA 4.2.1 (2) *Supports OSHA AWARE-A,E*

Identify the UN/DOT hazard classes and divisions of hazardous materials and identify common examples of materials in each hazard class or division.

AWARE - 1.1.3 Origin: NFPA 4.2.1 (3) *Supports OSHA AWARE-B,E*

Identify the primary hazards associated with each UN/DOT hazard classes and divisions of hazardous materials by hazard class or division.

AWARE - 1.1.4 Origin: NFPA 4.2.1 (4) *Supports OSHA AWARE-A,B*

Identify the difference between hazardous materials/WMD incidents and other incidents.

AWARE - 1.1.5 Origin: NFPA 4.2.1 (5) *Supports OSHA AWARE-C,D*

Identify typical occupancies and locations in the community where hazardous materials /WMD are manufactured, transported, stored, used, or disposed of.

OSHA – First Responders at Operations Level
NFPA - Operations Level Responders

Competencies – Objective 1. - Analyzing the Incident and 2. Planning the Response :
✓Surveying Hazmat /WMD Incidents; ✓Collecting Hazard and Response Information; ✓Predicting substance behavior.

Courtesy Jefferson County EMA

Competencies – Objective 3. - Implement Planned Response and 4. Evaluating Progress :
✓Describe Response Objectives; ✓Determining Suitability of Personal Protective Equipment (PPE); ✓ Using PPE; ✓ Identifying Decontamination Issues; ✓ Establishing & Enforcing Scene Control Procedures; ✓ Initiating Incident Command Systems (ICS).

First Responders at the Operations Level (OSHA) vs. Operations Level Responders (NFPA)

Relationship of OSHA Operations to NFPA 472 Chapter 5 Core Operations:

- ✓ The requirements under OSHA's 1910120(q)(6)(ii) are supported by the NFPA "Competencies" and then translated into six (6) "Required Training Objectives"

"Summary of Training Requirements"

Provides a guide in table form to address:

- Audience
- Training - Competencies
- Prerequisites
- Refresher training requirements

Relationship of OSHA Operations to NFPA 472 Core Operations

Under 29 CFR 1910.120 (q) (6) (ii), OSHA defines operations level responder competencies differently than NFPA 472. Most OSHA Operations level competencies relate closely to NFPA Core Competencies for Operations Level Responders, but the ability to perform basic control, containment and confinement techniques under OSHA are found in NFPA 472 under the Mission-Specific Competencies for Operations Level Responders (the following chapter in these Guidelines). OSHA Operations Level Competencies are discussed in the preceding chapter of these guidelines, including training recommendations and the translation of that required standard into six principle objectives. The crosswalk described in the recommended training objectives in this section relates individual NFPA 472 objectives to OSHA objectives and references the coding of the six OSHA objectives as explained in the preceding chapter of these guidelines. In addition, because the recommended competencies recognize the responsibility of the operations level responder to implement their incident command system at the beginning of the emergency, several recommended objectives relate to OSHA requirements for the incident commander in addition to OSHA requirements for responder operations. To assist in assessing course compliance with OSHA 1910.120(q), the relationships between these objectives and the OSHA requirements are noted, as depicted in the legend below.

Summary of Training Requirements

Core Competencies for Operations Level Responders

Audience

All personnel who respond to HM/WMD incidents for the purpose of protecting persons, the environment or property from the release.

Prerequisites

Awareness Level Training

Training

16-24 hours in classroom, with optional additional use of field exercise area. Competencies:

- Analyzing a hazmat/WMD incident.
- Planning an initial response.
- Implementing a planned response.
- Evaluating progress.

Refresher

Annual. 8 hour refresher training of response cognitive skills, technical updates to hazards and response protocols, and simulated incident scene decision-making practice.

OSHA - Hazardous Materials Technician
NFPA – Hazmat Technician

Competencies – Objective 1. – Analyzing the Incident and 2. Planning the Response : ✓Selecting PPE; ✓Collecting and Interpreting Hazard and Response Information; ✓ Developing Plan of Action; ✓Describing the Condition of the Container Involved in Incident; ✓Predicting Likely Behavior of Materials and Their Containers.

Courtesy Pinterest.com

Competencies – Objective 3. – Implementing the Planned Response: and 4. Evaluating Progress: ✓Performing Incident Management Duties; ✓Use PPE and Respiratory Protection Equipment; ✓ Implement and Evaluate Control Functions; Conduct and Evaluate Effectiveness of Decontamination Process

Relationship of OSHA Operations to NFPA 472 Chapter 7 Core Operations:

- ✓ The requirements under OSHA's 1910120(q)(6)(iii) and NFPA 7 are closely related – additional "Competencies" are combined

Summary of Training Requirements

Student-to-Teacher Ratio:

- 30:1 for lecture
- 10:1 for hands-on activities
- Live Chemicals (may require a 5:1 ratio

Training - General:

- Typically ranges from 40 to 240 hours

Refresher Training:

- Competency Retesting of Response Skills
- Technical Information Updates
- Critique of Incident Decision-Making using Simulated Emergencies

Summary of Training Requirements

Hazardous Materials Technician

Audience

Narrow. Prospective hazardous materials team members and others who are designated in response plans as a general resource to perform advanced defensive/ offensive operations at all anticipated hazardous materials emergencies.

Prerequisites

Awareness, Core Operations, and Mission-Specific training.

Training

40-240 hours in classroom and simulator/field instruction, with an emphasis on hands-on training.
Competencies:

- Knowledge of role of technician within incident command system and responsibilities within the employer's emergency response plan.
- Knowledge of hazardous materials terminology and behavior, and ability to perform advanced hazard and risk assessment using field survey instruments and equipment.
- Ability to perform advanced control, containment and/or confinement techniques.
- Ability to implement decontamination procedures.
- Knowledge of termination procedures.

Refresher

Annual refresher training recommended to include competency retesting of all response skills, technical information updates including new response protocols and recent lessons learned, and incident scene decision-making using simulated emergencies.

Federal Training Requirements

OSHA establishes the following training requirements for hazardous materials technicians. Methods of testing are not specified. Technicians shall have awareness training and operations training (for a minimum of 24 hours) and training at the technician level. Employers are required to ensure that employees demonstrate competency in the skills defined.

OSHA CFR 1910.120 (q)(6)(iii)

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 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:

(A) Know how to implement the employer's emergency response plan

OSHA - Hazardous Materials Incident Commander
NFPA – Incident Commander

Competencies – Objective 1. – Analyze the Incident and 2. Planning the Response : ✓Identify Response Objectives; ✓Identify Response Options; ✓Approve the Level of PPE; ✓Develop an Incident Action Plan (IAP); and Predicting substance behavior.

Courtesy emsworld.com

Competencies – Objective 3. – Implementing the Planned Response: and 4. Evaluating Progress: ✓Identifying the Duties and Responsibilities of the Group (Assigning responsibility for Decontamination, Entry, Division/Group Supervisor ; ✓Personnel Safety and the Safety Officer; ✓Effectiveness of Zones (Hot/Warm/Cold); ✓Evaluate Effectiveness of Decontamination Process; and ✓After Action Review (AAR).

Summary of Training Requirements

- Traditional lecture with small group activities
- Large group field exercises
- Small group activities should focus on ICS – progressive in terms of incident and management complexity.
- Written exam and post-incident critique of simulations

Training - General:

- Typically ranges from 16 to 40 hours

Refresher Training:

- Review of SOPs – Technical Updates on State / Federal Response Plans

Relationship of OSHA Operations to NFPA 472 Chapter 8 Core Operations:

✓ OSHA's 1910.120 and NFPA 8 Objectives are closely related – additional "Competencies" are combined

Summary of Training Requirements

Hazardous Materials Incident Commander

Audience

All responders whose level of command responsibility may include incident commander at all phases of a hazmat incident.

Prerequisites

Awareness and Core Operations training .

Training

16-40 hours in classroom and simulator/field instruction.
Competencies:

- Knowledge of role of incident commander within the incident command system and responsibilities within employer's emergency response plan.
- Knowledge of state and federal emergency response plans.
- Ability to manage and coordinate a haz mat incident response, including supervising hazard and risk assessment, coordinating control, containment and confinement operations, ensuring proper use of personal protective equipment, employing proper notification procedures, and ensuring correct decontamination procedures.
- Ability to implement transfer of command and incident termination procedures.

Refresher

Annual refresher training recommended to include instruction, review, and/or retesting of competencies required for command of hazardous materials incidents, including:

- Understanding of current command structure SOPs
- Understanding of changes and updates to state and federal response plans
- Refresher practice on incident scene management and coordination, and practice on incident decision-making using simulated emergencies.

Recommended Training Objectives

The following training objectives are recommended for hazardous materials incident commander training. The incident commander is responsible for directing and coordinating all aspects of a hazards materials incident. The primary source for the material is NFPA 472, Chapter 8 (2013 edition): Competencies for Incident Commanders. Training objectives from other sources are so noted, with discussion of the rationale for their inclusion to be found in the Special Topics section at the end of the Response Guidelines.

In general, these objectives are comparable in scope to those minimally required by OSHA. They do not constitute an increased scope of training but rather provide greater depth of definition of trainee objectives and may suggest a greater length of training. To assist in assessing course compliance with OSHA 1910.120(q), the relationship between these objectives and the OSHA requirements are noted. References to OSHA are abbreviated as noted.

The incident commander should be trained to meet all requirements indicated for the first responder at the awareness and operational levels as well as the requirements defined below. In addition, the incident commander should receive any additional training necessary to meet OSHA, local occupational health and safety regulations, or EPA requirements, whichever is appropriate for his or her jurisdiction.

Private Sector Specialist Employee

NFPA and HAZWOPER Differences

Private Sector Specialist Employee's (PSSE) are designated by their private sector employer (in both on-site and offsite roles) to provide technical expertise to the authority having jurisdiction.

PSSE are equivalent to an **OSHA Specialist Employee** (NIMS - "**Technical Specialists"**) - Consist of 3 levels ✓Specialist Employee "C" ✓Specialist Employee "B" and ✓ Specialist Employee "A."

Specialist Employee "C" works in the support/cold zone and is trained to the Awareness level – *Duties include:* ✓Gather, record, and analyze information ✓Serve as Technical Advisors to IC or Hazmat Team ✓Are not expected to work in either the hot or warm zones of an incident area.

Specialist Employee "B" is qualified to work in the hot/exclusion zone, and is trained to at least the Awareness level (also to the Specialist Employee "C" level) – *Duties include:* ✓Provide info on personal protective equipment (PPE) ✓Decontamination methods, and response evaluation.

Specialist Employee "A" is trained to at least the Awareness level (as well as to the Specialist Employee B level). Trained to handle incidents involving chemicals or containers for chemicals used in their organization's area of specialization . *Duties include:* ✓Analysis of incidents involving chemicals within their organization's area of specialization ✓Plan, implement, and ✓Evaluate the progress of the planned response.

Assessments, Planning, Consideration and Determination Points

The NFPA and other response organizations have provided recommendations that a *"Training and Needs Analysis and Review"* be conducted, to ensure compliance with regulations. Some "rules of thumb" below:

- If no personnel are planned to enter a "Hot Zone" – No need to exceed First Responder-Awareness Level;
- If defensive actions are anticipated, there may be a need for personnel at the First Responder – Operations Level to conduct some defensive actions;
- In the case of a large municipal fire department, there may be a need to ensure that the entire compliment of firefighters are trained to the First Responder-Operations Level as outlined in NFPA-472; and
- Private sector response contractors - ✓Personnel working on Hazardous Waste Sites should be trained in accordance with 29 CFR 1910.120(e) - ✓While those who participate in emergency response activities should be trained to at least 29 CFR 1910.120(q).

Training Requirements – Emergency Response Operations – OSHA vs. NFPA Requirements	
Awareness Level Personnel – Personnel that witnesses or discover a release ✓Trained to recognize hazards ✓Recognize site security & control (ERG Book) ✓Make notifications. **Awareness Level Personnel** – Personnel who may discover an incident, call for assistance, and isolate the area,,,	**OSHA - 1910.120(q)(6)** **NFPA 472 - Chap 4 "**Competencies for Awareness Level Personnel" – ✓Analyze the Incident; ✓Plan and Implement the Response; ✓Evaluate Progress
Operations Level Responders – Responds to the releases in a defensive manner, without trying to stop the release. **Operations Level Responders** – Respond to protect persons, property, and environment from the effects of the release.	**OSHA - 1910.120(q)(6)** **NFPA 472 – Chap 5 "**Competencies for Operations Level Responders" – ✓Analyze and Plan the Response; ✓Implement and Terminate Response
Hazardous Materials Technician – Responds aggressively to stop the release of hazardous substances. **Hazardous Materials Technician** – Responds to incidents with intent of controlling the release ✓Conduct functions as identified in the Incident Action Plan (IAP), etc…	**OSHA - 1910.120(q)(6)** **NFPA 472 Chap 7** "Competencies for Operations Level Responders Assigned Mission-Specific Responsibilities" – ✓PPE ✓Mass & Technical Decontamination
Hazardous Materials Specialist – Responds with and in support of HAZMAT technicians – has specific knowledge of various hazardous substances. ✓Not specifically defined as a competency category in the **NFPA 472**	**OSHA - 1910.120(q)(6)(iv)** **NFPA 472 Chap 9** Grouped with "Private Sector Specialist Employee" – A; "Technician Specialties- Tank Car, Cargo & Intermodal Tank"
On Scene Incident Commander – Assumes control of the incident scene beyond first responder awareness level. **Incident Commander** – Individual responsible for all incident activities, development of strategies and tactics, and resources.	**OSHA - 1910.120(q)(3)(i-ix)** **NFPA 472 Chap 8** "Competencies for Incident Commanders" ✓Threat estimate ✓Develop IAP ✓Debrief

Recommended Instructor Qualifications - OSHA

Recommended Instructor Qualifications

OSHA 1910.120(q)(7) states: "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."

The Guidelines recommend that instructors possess the following:

- **Job knowledge** - Thorough knowledge of the content to be taught and knowledge of how the information, techniques, and principles apply to performing the job;
- **Job Experience** - Actual work experience directly related to the subject matter (have performed that job being taught) and experience in hazardous materials incidents;
- **Training knowledge**-successful completion of an instructor training course that covers the principles of learning, methods and sequencing of instruction, methods of testing and evaluation, preparing performance objectives and lesson plans, training liability , and oral and written communication skills; and
- **Personal qualities** - Patience and understanding, enjoyment of and respect for students, and flexibility.

Recommended Instructor Qualifications - NFPA

Recommended Instructor Qualifications - NFPA

Some States and private organizations certify hazardous materials instructors. Professional organizations, such as NFPA, have established professional standards for instructors (NFPA 1041) that can be used to evaluate instructor training and certification.

Consideration of the criteria for certification of hazardous materials instructors include:

- What standards have been applied?
- Are potential certified instructors tested in their area of subject matter expertise?
- Are candidates required to demonstrate their skills and knowledge in the classroom setting?
- Are there follow-up evaluations or rectification requirements?
- Are both instructional and technical skills addressed by certification?
- Is hands-on experience in hazardous materials response considered?
- Have the instructors performed the tasks being taught?

State EPCRA / LEPC Coordinator and SERC Contacts

State EPCRA / LEPC Coordinators and SERC Contacts

Arkansas	Bill James	501-683-6700	Bill.james@adem.arkansas.gov
Louisiana	Gene Dunegan	225-925-6113	gene.dunegan@dps.la.gov
New Mexico	Henry Jolly	505-476-6240	henry.jolly@state.nm.us
Oklahoma	Tom Bergman Bonnie McKelvey	405-702-1013 405-521-2481	tom.bergman@deq.ok.gov bonnie.mckelvey@oem.ok.gov
Texas	Bernardine Zimmerman Bryan Becknel	512-239-5065 512-424-5237	bernardine.zimmerman@tceq.texas.gov Bryan.becknel@dps.texas.gov

OSHA's Site for Emergency Preparedness & Response
https://www.osha.gov/SLTC/emergencypreparedness

Questions??

CONTACT INFO:
Doug Huddleston, *Certified Safety Professional*
Office: 972-850-4167
huddleston.douglas@dol.gov