HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE

- General Requirements
- Hazardous Substance Release Emergency Response
Introduction


- This module covers the following sections:
  - General Requirements
  - Hazardous Substance Release Emergency Response.
Introduction

- The HAZWOPER standard protects employees involved in:
  - Clean-up operations:
    - Hazardous substances at uncontrolled hazardous waste sites as required by a governmental body (federal, state, local, or other)
    - Corrective actions at sites covered by the Resource Conservation and Recovery Act (RCRA)
    - Voluntary clean-up at sites recognized by federal, state, local, or other governmental bodies as uncontrolled hazardous waste sites.
Introduction

- Treatment, storage, and disposal of hazardous wastes from operations at RCRA licensed treatment, storage, and disposal facilities
- Emergency response operations for substantial threats of release or the release of hazardous substances. This is the type of operation with which the majority of employers will be concerned.

Exceptions to the above are permitted if the employer can demonstrate that the operation does not involve employee exposure or a reasonable possibility of such exposure to hazards.
Objectives

At the end of this Hazardous Waste Operations and Emergency Response module, you should be able to:

- Understand the general requirements of the Hazardous Waste Operations and Emergency Operations standard 29 CFR - 1910.120
- Identify employer responsibilities
- Identify elements of an emergency response plan.
The general requirements of the Hazardous Waste Operations and Emergency Response standard provide measures to ensure that all personnel on the site are properly trained and adequately protected.

The employer must develop a safety and health program that will identify, evaluate, and control safety and health hazards and provide for emergency response.
General Requirements

- The following are also required for hazardous waste operations:
  - Primary site evaluations
  - Implementation of site control plan
  - Training
  - Medical surveillance.
General Requirements

- Prior to entry, a trained person must conduct a preliminary site characteristic evaluation, to identify potential hazards to life and health, and in turn aid in the selection of employee protection methods.
- Once the evaluation has been completed, a site control program must be implemented to protect employees against hazardous contamination.
General Requirements

- At a minimum, it must have:
  - A site map
  - Site work zones
  - Site communications
  - Safe work practices
  - Identification of the nearest medical assistance.

- Also required is the use of a "buddy system" as a protective measure in particularly hazardous situations so that employees can keep watch on one another to provide quick aid if needed.
General Requirements

- Training must be conducted for all employees before they are allowed to engage in hazardous waste operations or emergency response that could expose them to safety and health hazards.

- However, experienced workers will be allowed to continue operations and then be given refresher courses when appropriate.
Specific training requirements are listed for:

- Clean-up personnel
- Equipment operators
- General laborers
- Supervisory employees and for various levels of emergency response personnel.
General Requirements

- Persons completing specified training for hazardous waste operations shall be certified. Persons neither certified nor with proper experience shall be prohibited from engaging in those operations specified by the standard.
General Requirements

- Training requirements will vary with the type of operation involved.
- The various operations and the training required are listed for the situations listed below.
- Click on each to learn more:
  - Mandated Uncontrolled Hazardous Waste Operations
  - Sites Licensed Under RCRA
General Requirements

- For emergency response operations at other than RCRA sites or uncontrolled hazardous waste clean site clean-ups, see the following section on Emergency Response.
General Requirements

- Medical surveillance must be provided at least annually and at the end of employment for all employees exposed to any particular hazardous substance at or above established exposure levels and/or those who wear approved respirators for 30 days or more on site.

- Such surveillance also will be conducted if a worker is exposed to unexpected or emergency releases.
General Requirements

- Engineering controls, work practices, and personal protective equipment, or a combination of these methods, must be implemented to reduce exposure below established exposure levels for the hazardous substance involved.

- Air monitoring must be completed to identify and quantify hazardous substance levels with periodic monitoring to assure that proper protective equipment is being used.
General Requirements

Employers must have an informational program which includes the names of key personnel, their alternates responsible for site safety and health, and a listing of the relevant requirements of 29 CFR 1910.120.
General Requirements

- A decontamination procedure must be implemented before any employee or equipment may leave a potentially hazardous exposure area.
- It must include operating procedures to minimize exposure through contact with exposed equipment, other employees, or used clothing.
- The decontamination procedures must also include showers and change rooms where needed.
An emergency response plan to handle possible on-site emergencies must be developed prior to beginning hazardous waste operations. Such plans must address: personnel roles; lines of authority, training, and communications; emergency recognition and prevention; safe places of refuge; site security; evacuation routes and procedures; emergency medical treatment; and emergency alerting.
General Requirements

- An off-site emergency response plan must be developed to better coordinate emergency action by the local services and to implement appropriate control action.
Quiz Question:

A trained person must conduct preliminary evaluation of the emergency response site's characteristics immediately upon entering the site.

- True
- False
Quiz Question:

A site control program must include:

- An employee manifest
- Identification of the nearest medical assistance
- Site communications
- Safe work practices
- A site map
Hazardous Substance Release
Emergency Response

- Response to emergency, or potential emergency, releases of hazardous substances is covered by paragraph (q) of the Hazardous Waste Operations and Emergency Response standard – 29 CFR 1910.120.

- This section of the module summarizes the standard. This section is divided into six topic areas listed on the left.
This section is concerned with the responsibilities of the employer that will ensure that personnel are properly trained, supported, and monitored to conduct emergency response operations.
 Definition

The Hazardous Waste Operations and Emergency Response Standard defines "emergency response" or "responding to emergencies" as:

- "A response effort by employees from outside the immediate release area or by other designated responders (i.e., mutual-aid groups, local fire departments, etc.) to an occurrence which results or is likely to result, in an uncontrolled release of a hazardous substance."
Definition

- "Responses to incidental releases of hazardous substances where the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area, or by maintenance personnel are not considered to be emergency releases within the scope of this standard."

- "Responses to releases of hazardous substances where there is no potential safety or health hazard (i.e., fire, explosion, or chemical exposure) are not considered to be emergency responses."
Definition

- The following criteria determine if an emergency response is necessary:
  - If there is no potential safety or health hazard, there is no emergency. This applies whether the release is cleaned up by personnel within the immediate work area or outside the work area. Generally, employees will be trained under the hazard communication standard to deal with such incidental releases.
Definition

If there is a potential safety or health hazard, there may be an emergency; and therefore, an emergency response.

This applies whether the release is responded to by employees from outside the work area, by outside groups such as the fire department, or by employees from the immediate work area who have been designated by the employer to respond to emergencies.

Click the term below for additional considerations that classify a situation as an emergency response.

- Situations
Situations

The following situations result in emergency responses:

- The response comes from outside the immediate release area
- The release requires evacuation of employees in the area
- The release poses, or has the potential to pose, conditions that are immediately dangerous to life and health (IDLH)
- The release poses a serious threat of fire or explosion (exceeds or has the potential to exceed the lower explosive limit or lower flammable limit)
- The release requires immediate attention because of imminent danger
- The release may cause high levels of exposure to toxic substances
- There is uncertainty that the employee in the work area can handle the severity of the hazard with the PPE and equipment that has been provided and the exposure limit could easily be exceeded
- The situation is unclear, or data is lacking on important factors.
Employers whose employees will be engaged in emergency responses must develop and implement an emergency response plan except for the following exceptions and exemptions:

- Employers who will evacuate their employees from the danger area in an emergency, and who do not permit their employees to assist in handling the emergency, are exempt from the requirements if they provide an Emergency Action Plan in accordance with 1910.38(a)
Emergency Response Plan

- Emergency response organizations that have developed programs for handling hazardous substance releases in order to meet requirements of the Superfund Amendments and Reauthorization Act of 1986 (Emergency Planning and Community Right-to-Know Act of 1986), may use those programs to meet the requirements of 1910.120 to the extent that they are equivalent.
They may use the local emergency response plan or the state emergency response plan or both, as part of their plan to avoid duplication.
Elements of an Emergency Response Plan include:

- Pre-emergency planning and coordination with outside parties
- 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
Emergency Response Plan

- Decontamination
- Emergency medical treatment and first aid
- Emergency alerting and response procedures
- Critique of response and follow-up
- PPE and emergency equipment.
Emergency Response Procedures

- The senior emergency response official responding to an emergency becomes the individual in charge of a site-specific Incident Command System (ICS).

- All emergency responders and their communications must be coordinated and controlled through the individual in charge of the ICS assisted by the senior official present for each employer.
Emergency Response Procedures

- Operations in hazardous areas must be performed using the buddy system in groups of two or more.
- Back-up personnel must stand by with equipment ready to provide assistance or rescue.
- Advanced first aid support personnel, as a minimum, must also stand by with medical equipment and transportation capability.
Different levels of initial training are required depending on the duties and functions of each responder.

Each person must also demonstrate competence or receive annual refresher training sufficient to maintain competence.
Training

- Click on the terms below to learn more about the different levels.
  - First Responders at the "Awareness Level"
  - First Responders at the "Operations Level"
  - Hazardous Materials Technicians
  - Hazardous Materials Specialists
  - On-Scene Incident Commanders
Training

- Skilled support personnel (e.g., heavy earth-moving equipment operators) who are needed on a temporary basis are not required to meet the training required for an employer's regular employees.

- They must, however, be given an initial briefing at the site prior to their participation in any emergency response.
The briefing must include instruction on how to wear appropriate personal protective equipment, what chemical hazards are involved, and what duties are to be performed.

Specialist employees must receive training or demonstrate competency in the area of their specialization annually if they:

- Regularly work with and are trained in the hazards of specific hazardous substances
Training

- Will provide technical advice or assistance at a hazardous substance release incident.

- Employees who receive the training for the various levels must have annual refresher training to maintain their competencies, or must demonstrate competency in those areas at least yearly.
Medical Surveillance and Consultation

- Members of designated HAZMAT teams and hazardous materials specialists must have a baseline physical examination and be provided with medical surveillance as required for employees at uncontrolled hazardous waste sites.

- Any emergency response employees who exhibit signs or symptoms that may have resulted from exposure during the course of an emergency incident must be provided with medical consultation.
Post-Emergency Response Operations

- After the emergency response is over, clean-up of released hazardous substances, along with health hazards or materials contaminated with released substances, may be necessary.
- In this case, the employer may either comply with all of the requirements for uncontrolled hazardous waste sites, or if the clean-up is done on plant property using plant or workplace employees.
Post-Emergency Response Operations

- Make sure that such employees have completed the training requirements as follows:
  - Emergency Action Plan training (1910.38(a))
  - Respirator training (29 CFR 1910.134)
  - Hazard communication training (29 CFR 1910.1200)
  - Other appropriate safety and health training made necessary by the tasks that they are expected to perform, such as personal protective equipment and decontamination procedures.
Quiz Question:

Which of the following situations will NOT require an emergency response.

- When the situation at the time of release is controlled by employees in the immediate release area
- When the situation is unclear, or data is lacking on important factors
- When the release poses a serious threat of fire or explosion (exceeds or has the potential to exceed the lower explosive limit or lower flammable limit)
- When the release may cause high levels of exposure to toxic substances
Quiz Question:

First responders at the "operations level" are individuals who:

- Respond to stop the release
- Support the technicians but require a more specific knowledge of the substances to be contained
- Are likely to witness or discover a hazardous substance release and initiate the emergency response
- Respond for the purpose of protecting property, persons, or the nearby environment without actually trying to stop the release
Summary

In this module we discussed:

- General Requirements
- Hazardous Substance Release Emergency Response
  - Definitions
  - Emergency Response Plan
  - Emergency Response Procedures
  - Training
  - Medical Surveillance and Consultation
  - Post-Emergency Response Operations.