Hazardous Materials/WMD Incident Response: Operations
Administrative

- Instructor Introduction
- Student Introduction
- Course Registration
- Smoking Areas
- Emergency Exits
- Facilities
- Course Hours
- Cell Phones / Pagers
- Student Manuals
Section I
Roles and Responsibilities

Module 1
Introduction to the Course
Course Objectives

• Provide the knowledge and skills for the first responder at the operations level to:
  • Analyze an Incident
  • Plan a Response
  • Implement a Planned Response
  • Evaluate the Progress of a Response at a hazardous materials/WMD incident.
Objectives

• NFPA 472 (2008 ed.)
• HMEP (March 1998)
  • References all NFPA 472 Objectives
• Meet Requirements for DFS FF I
Course Outline

Fundamental Knowledge

• Roles and Responsibilities
• Properties, Harm Terminology and Toxicology of Hazardous Materials
• Utilizing the Recognition and Identification Clues
Course Outline
Developing a Response

• Decontamination
• Predicting the Course of an Incident
• Incident Management
• Mission Specific:
  • Mitigation Options and Product Control
  • Personal Protective Equipment
• Practical Skills
Practical Skills

• Working in PPE
• Defensive Actions
• Emergency Decontamination
Course Completion

• Attend all course sessions
• Complete all practical skill stations
• Course examination with a 70% or greater
• Course evaluation
Section I
Roles and Responsibilities

Module 2
Roles and Responsibilities
Defined By:

- 29 CFR 1910.120 & 40 CFR 311
- NFPA Consensus Documents
- HMEP Guidelines
29 CFR 1910.120*

• Mandated by SARA of 1986
• Promulgated by OSHA
  (Occupational Safety and Health Administration)
• EPA 40 CFR 311
  • Public Sector Protection
29 CFR 1910.120: Mitigate vs. Remediate

- **MITIGATE**: To make less in force
  - Gain control
  - Remove the emergency situation

- **REMEDiate**: To correct or improve
  - Clean up type activities
  - Not necessary to relieve emergency
Emergency Response*

- Applies to MITIGATION
- Requires*
  - Emergency Response Plans (ERP)
  - Standard Operating Guidelines (SOG)
  - Use of ICS
  - General Operational Procedures
  - Training
ERPs and SOGs

• Emergency Response Plan
  • MUST be Written
  • Organization Plan
  • Integrated with Facility and LEPC Plans
• Standard Operating Guidelines
  • MUST be Written
  • Integrate with ERP
Incident Command
Incident Management

• Must use ICS/IMS
• Responsibilities of IC
  • ID Hazardous Substances & Conditions
  • Implement Appropriate Operations
  • Assure Use of Proper PPE
  • Limit Number of Personnel
  • Designate a Safety Officer
  • Ensure Decontamination is Utilized
General Requirements

• “Buddy System”
• Back Up Personnel
• BLS & Transport Ability
• Positive Pressure SCBA
• Medical Evaluations
Training

• Awareness
• Operations
• Technician
• Specialist
• Incident Commander
Awareness

• Those likely to witness or discover a hazardous substance release and have been trained to initiate an emergency response sequence by notifying the authorities of a release

• Five General Requirements*
Awareness

• Understand Materials & Risks
• Potential Emergency Outcomes
• ID HazMat (if possible)
• Know Your Role in the ERP
  • Site Control
  • Emergency Response Guide
• Recognize & Communicate Need for Assistance
Operations

• Those who respond to releases or potential releases of a hazardous substance 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.
Operations

• “Defensive” Response
• Without Trying to Stop Release
• Contain Release from Safe Distance
• Keep from Spreading
• Prevent Exposures
Operations

• All Awareness Competencies
• Basic Hazard and Risk Assessment
• Select and Use PPE Provided
• Perform Basic Control Methods
• Implement Basic Decontamination
• SOPs and Termination Procedures
Operations

- Spill control only from an area outside the hazard zone
- No leak control
  - Exceptions only if specific training is provided:
    - Propane leak and fire
    - Small quantities of fluids from motor vehicle collisions
Technician

• Those who respond to releases or potential releases for the purpose of stopping the release.
Specialist

• Those who respond with and provide support to hazardous materials technicians. Their duties parallel those of the Haz Mat Tech, however, those duties require a more directed or specific knowledge of the various substances.....
Incident Commander

• Individual who assumes control of the incident scene beyond the First Responder Awareness level.
• Minimum of Operations training plus specific Incident Command training
Activity 1.1

Role of the First Responder Operations
NFPA Documents*

- NFPA 472
- NFPA 473
NFPA 472

- Competencies for Responders
  - Standards Document
  - Response Level Guidelines
- Recommended Practices
  - Base Knowledge
  - Emergency Operations Guidance
NFPA 472

• Core Competencies
• Mission Specific Competencies:
  • Personal protective equipment
  • Mass decontamination
  • Technical decontamination
  • Evidence preservation and sampling
  • Product control
  • Air monitoring and sampling
  • Victim rescue/recovery
  • Illicit laboratory incidents
NFPA 473

- Competencies for EMS Personnel
  - Standards document
  - Response levels
    - (EMS/HM level I & II)
- Effects all EMS agencies
HMEP Guidelines

- Adopted by MERC
- Utilize 29 CFR 1910.120
- NFPA 472
- Coordinated by EMI of FEMA
- Evaluation system for grant money
- Objectives based on HMEP
Roles of the First Responder

• Analyzing the incident
• Planning a response
• Implementing a planned response
• Evaluating progress of a response
Response Cycle

Diagram Of Response Cycle

ANALYZE  \[\rightarrow\]  PLAN

EVALUATE  \[\uparrow\]  IMPLEMENT
Analyzing

• Survey the Scene
  • ID Containers
  • ID Materials
  • ID Release
  • Evaluate Surroundings

• Collect Hazard & Response Information
  • MSDS
  • CHEMTREC
  • Shipper & Manufacturer
Analyzing

- Predict Behavior
  - Material
  - Containers

- Estimate Harm
  - People
  - Property
  - Environment
Planning

• Response Objectives
  • Determining objectives
• Describe Defensive Options
  • Absorption and Adsorption
  • Diking, Damming, Diverting
  • Retention
  • Dilution
  • Remote Shut Offs
  • Vapor Dispersion & Suppression
Planning

• Determine Appropriate Level of PPE
  • ID types of respiratory protection
  • Physical capabilities required for use
  • PPE adequate for actions?
Planning

• Identify Emergency Decontamination
  • Need for decontamination
  • Methods of contamination
  • Emergency decontamination methods
Implement: Action Plan

• Scene Control
  • Establish control zones
  • Perimeter
  • Communications

• ICS System
  • Integrating other agencies
  • Emphasis on Accountability and Safety
Implementing

• Use of PPE
  • Respiratory protection
  • Chemical protective clothing
• Perform Defensive Controls methods
  • Dike, Dam & Divert
  • Absorb, Disperse, Dilute,
  • Vapor Suppression
Evaluating

• Evaluate Actions Taken
  • Being met
  • Safe, Effective, Efficient?
  • Need more / less resources?

• Communicate Status of Response
  • Communicate evaluation
  • Communicate needs and recommendations
Activity 1.2
Transportation Incident
Summary

• 29 CFR 1910.120
• General requirements
• NFPA standards
• Response cycle