

Lesson Topic

Chapter 5 Command, Safety, and Scene Control
IFSTA Awareness Level Training For Hazardous Materials 1st Edition

Learning Objectives

1. Identify the role of the first responder at the awareness level at a hazardous materials incident
2. Identify the basic precautions to be taken to protect himself/herself and others at a hazardous materials incident
3. Identify possible ignition sources at a hazardous materials incident
4. Identify the meanings of:
 - a. Isolate hazard area and deny entry
 - b. Evacuate
 - c. In-place protection
5. Identify the shapes of recommended initial isolation and protective action zones
6. Identify the initial notifications procedures for hazardous materials incidents in the local emergency response plan or the organization's standard operating procedures.

Time Frame

2 hours

Level of Instruction

Cognitive

Materials Needed

Lesson Plan
2004 *ERG*
Copy of Departmental S.O.P.'s or S.O.G.'s
Hand Outs
Copy of IFSTA Study Guide Chapter 5

References

IFSTA Awareness Level Training For Hazardous Materials 1st Edition
N.F.P.A. Standards; NFPA 472:2-4.1, NFPA 472:2-4.1.1, NFPA 472: 2-4.1.2, NFPA 472: 2-4.1.3,
NFPA 472: 2-4.1.4, NFPA 472: 2-4.1.4.2, NFPA 472: 2-4.1.5.2, NFPA 472: 2-4.1.5.3,
NFPA 472: 2-4.1.5.4, NFPA 472: 2- 1.5.5, NFPA 472: 2-4.2, NFPA 472: 2-4.2.1

Course Goals

To reinforce the first responder's knowledge of command, safety, and scene control in the hazardous materials environment.

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CONTENT OUTLINE

INTRODUCTION

This chapter covers an area that is of concern before and immediately after agencies learn of a developing hazardous materials emergency. It also focuses on available resources that assist the first responder in making the initial decision to carry out the local emergency response plan.

EMERGENCY INFORMATION MANAGEMENT

- A. External communications of hazardous materials incidents
 - 1. Composes a very small amount of actual call volume.
 - 2. Dispatchers need to be specially trained to gather information such as:
 - a. Location of the incident
 - b. Name, phone number, and location of the caller reporting the incident
 - c. Identity of substance involved
 - d. Amount of substance
 - e. Type and condition of container
 - f. Weather conditions
 - g. Number of injuries and/or exposed persons
 - h. Brief description of what occurred
 - i. Call back numbers
 - j. Type of assistance needed
- B. Internal communications of hazardous materials incidents
 - 1. Begins when emergency personnel arrive on scene
 - 2. Dispatchers must pass on all information received to responding units as soon as possible
 - 3. Command must consider using tact channels due to the amount of information that needs to be delivered
 - 4. All pertinent information must be communicated to Incident Commander.

MISSION OF INCIDENT OPERATIONS

- A. The first responders mission at the awareness level is to implement the jurisdictions S.O.P.'s such as:
 - 1. Recognize the presence of hazardous materials
 - 2. Call for the appropriate help
 - 3. Secure the area to keep anyone from entering
 - 4. Survey from a distance to identify the hazard
 - 5. Determine the appropriate course of action as recommended by the ERG. Or IERG.
- B. Take no action that will place the responder or others in contact with the material

- C. Analyze the incident to determine the problem and possible outcome using the following:
 - 1. Surveying the condition of the container
 - 2. Estimating the nature and extent of the release
 - 3. Observing present conditions
 - 4. Gathering and sharing all material information with all parties involved
 - 5. Predicting the incidents future course
 - 6. Estimating likely harm to responders and civilians as well as the environment.

HAZARD ASSESSMENT

- A. Size-up is defined as a rapid evaluation of an emergency situation in order to form a plan of attack.
- B. Gathering Information starts with the initial alarm such as:
 - 1. Nature of the call
 - 2. Location of the call
 - 3. Equipment responding
 - 4. Time of day
 - 5. Weather
- C. Additional information to be considered while en route :
 - 1. Response Route
 - 2. Pre-Plans
 - 3. Arrival time of other units
 - 4. Water supply locations
 - 5. Access to the scene
 - 6. Apparatus placement
 - 7. Additional information from dispatch
 - 8. Additional units
- D. Things to consider once on scene are as follows:
 - 1. Unusual signs such as smoke color, fire, explosions, leaking material, vapor clouds, etc...
 - 2. Life hazards
 - 3. Materials involved
 - 4. Path of fire and/or material travel
 - 5. Actions taken by persons already on the scene
- E. Based on the on scene assessment the Incident Commander will develop a plan of action with three strategic goals in mind.
 - 1. Life safety
 - 2. Environmental protection
 - 3. Property Conservation

Safety Considerations

- A. Ensure that all members work as a team
- B. All responders should be aware of the following aspects of the situation:
 - 1. The immediate goal

2. Who performs which tasks
 3. Operation completion time
 4. How to call for help
 5. The escape route
 6. The materials effects
 7. Sign/symptoms of exposure
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- C. Can reconnaissance be made visually
 - D. Can approach be made from uphill/down wind
 - E. Can the vapor cloud, mist ,dust, or smoke spread
 - F. Is the risk worth the benefit

Respect the Material

- A. Avoid direct or indirect contact with the product at all times.
- B. Maintain a safe distance, and stay outside the hot zone
- C. Use available shielding
- D. Anticipate change with by the material and weather conditions

Note the Surroundings

- A. Weather
- B. Topography
- C. Water
- D. Occupancies
- E. Community transportation systems
- F. Utilities

Observe the Container

- A. Container Integrity
- B. Safety devices
- C. Leaking
- D. Stability

Eliminate Ignition Sources

- A. Internal combustion engines
- B. Electric motors
- C. Lighting equipment
- D. Fuel-powered equipment
- E. Open or pilot flames
- F. Electrostatic and frictional sparks
- G. Heated metal surfaces
- H. Radios, hand lights, pagers, PASS devices

ESTABLISH SCENE CONTROL

- A. Establish The Initial Isolation Distance
- B. Control The Initial Isolation Zone By:
 - 1. Station a responder at approaches and refuse entry
 - 2. Activate local alarm devices
 - 3. Reroute traffic away from the scene
 - 4. Put up physical barriers
 - 5. Transmit warnings over public address systems
 - 6. Stage responders at a safe distance
- C. Establish the Protective Action Distance
 - 1. Material Considerations
 - a. Toxicity
 - b. Quantity
 - c. Rate of release
 - d. Possibility of control
 - e. Direction of spread
 - 2. Environmental conditions
 - a. Wind direction
 - b. Wind velocity
 - c. Temperature
 - d. Humidity
 - e. Precipitation
 - f. Topography
 - 3. Population Risks
 - a. Population density
 - b. Proximity
 - c. Warning/Notification system
 - d. Method of transport
 - e. Ability of control
 - f. Special needs
- D. Evacuation
- E. Protection-in-place
 - 1. The decision to protect in place may be determined by on of the following:
 - a. The population is unable to evacuate because of health care, detention, or educational occupancies.
 - b. The material is spreading to rapidly
 - c. The material is to toxic to risk exposure
 - d. The vapors are heavier than air and people are in a high rise structure

SUMMARY

First responders at the awareness level are personnel who are likely to witness or discover a hazardous materials emergency or, in the course of their normal duties, may be the first persons on the scene of an emergency involving hazardous materials. First responders at the awareness level 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.