



Pennsylvania State Fire Academy

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Minimum Standard for Accreditation (MSA)

August 1992

Course Title: Hazardous Materials Defensive Practices (HMDP)

Length of Course: 16 Hours

Lecture/Lab Breakdown: 7/9

Prerequisites: IAFF or other First Responder Operations-level training per OSHA 29 CFR 1910.120[q]

Referenced Texts: Plan for instruction for Hazardous Materials Defensive Practices; 1986

Course Goal: Ideally the student shall develop a working proficiency of Defensive Practices when working with Hazardous Materials.

Description of Course: A hands on program developing proficiencies when working with hazardous materials. An emphasis will be placed in the safe handling and control of personnel and the spill site. This will be done drills in setting up zones, identifying material and its properties, and identifying level protective clothing necessary. Drills in proper stages of denomination, both land and water containment practices will be included. This will be achieved using as many items commonly available or easily accessibly to fire personnel.

Description of Methodology to be used: This course will utilize lecture, audiovisuals, demonstrations, and practical exercises.

Student Equipment/Supply Needs: Full Turnout Gear with bunker boots and pants, positive pressure S.C.B.A., Notebook, Pen/Pencil.

Equipment/Audiovisual/Supply requirements: TV/VCR Overhead Projector, Flip Chart/Chalk Board. Equipment list per Virginia Department of Emergency Services Plan of Instruction.

COURSE OUTLINE

- I Introduction and Review of First Responder – Operations Competencies: 1 hour
- II. Structuring Hazardous Materials Preparedness: 3 hours
 - A. Developing a Plan
 - 1. Local HMIC - Who is in Charge
 - 2. Compiling Data
 - 3. Preplanning

(continued)

COURSE OUTLINE (continued)

B.	Incident Command System	
1.	Background	
2.	Concept of ICS	
3.	Adapting to ICS	
III.	Strategic and Tactical Considerations	3 hours
A.	Selection of Protective Clothing (Lecture/Practical)	
1.	Levels of Protective Clothing	
2.	Selection Process - Decision Matrix	
3.	Level I Structural Firefighting Protective Clothing Taping Process	
B.	Spill Control (Lecture/Practical)	3 hours
1.	Safety	
2.	Site Management	
3.	Necessary Equipment	
4.	Strategies	
a.	Diking	
b.	Diversion	
c.	Retention (Land & Water)	
C.	Decontamination (Lecture/Practical)	
IV.	Simulated Incident (Practical)	4 hours
V.	Conclusion	1 hour

Competency Evaluation Mechanism: Evaluation will take place primarily during practical exercise periods. This will consist of instructor observations of student performance in relation to performance objectives given, both for the individual and group activities. Necessary corrections are expected to be made, based upon instructor suggestions and directions.

Course Objectives (Learning Outcomes):

The student will:

1. Show proficiencies working with hazardous materials in a defensive manner as defined in OSHA 29 CFR 1910.120 [q]
2. Compare and contrast the capabilities and limitations of different levels of protective clothing available.
3. Identify the proper level of protective clothing required to deal safely with the material involved.
4. Complete drills in taping of structural turnout gear to raise level of protection provided.
5. Set up proper command and control procedures for scene control, and personnel accountability.
6. Demonstrate efficient use of an incident command system.

continued

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Course Objectives (Learning Outcomes): continued

7. Learn how to identify and set up "Hot", "Warm" and "Cold" zones.
8. Identify and demonstrate proper containment procedures to minimize environmental impact of Haz-Mat material.
9. Identify and demonstrate the difference between diversion, retention, and absorption on land. Also how to use natural barriers to assist you in your task.
10. Identify and demonstrate building and uses of underflow, overflow, and filtration dams. Demonstrations of inflated fire hose may also be included.
11. Demonstrate the proper application and use of commercial sorbents available to the emergency services.
12. Identify and demonstrate different levels and stages of the decontamination procedure.
13. Identify if protective clothing can be effectively decontaminated, if yes how, and if not to properly dispose of items.
14. Familiarization with termination procedures, record keeping, medical monitoring, staffing ICS positions etc.