



Pennsylvania State Fire Academy

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Minimum Standard for Accreditation (MSA)

Date: September 2006

Last Revision:

Course Title: Hazardous Materials Awareness Refresher Level 472

SFA Course Code: HMAR

Course Length: 2 hours

Lecture/Lab Breakdown: 1.75/.25

Prerequisites: HMA

Referenced Text(s): *Hazardous materials Training: First Responder Awareness* Instructor Guide; OSHA 29 CFR 1910.120; DOT 49 CFR 171-173; NFPA 471; NFPA 472; DOT Emergency Response Guidebook 2004 Edition; *NIOSH Pocket Guide to Chemical Hazards*, Third Printing, January 2003, DHHS (NIOSH) Publication No. 97-140, U.S. Department Health and Human Services, Public Health Service, Centers for Disease Control & Prevention; *Fundamentals of Industrial Hygiene*, Third Edition, National Safety Council (Stock#151.33); *Hazardous Materials, Managing the Incident*, Second Edition, Noll, Hildebrand & Yvorra, Fire Protection Publications, Oklahoma State University.

Course Goal: Students completing this course will be able to safely and effectively manage a hazardous materials release using first due resources until the arrival of additional specialized units. This program was designed to educate the student in hazardous materials responses and to prepare the student for professional certification testing in accordance with NFPA 472 Awareness Level.

Course Description: The primary target audiences for this course are the First Responders who have had the Hazardous Materials Awareness Level 472 course. Student will learn and adapt the knowledge and skill requirements for effective scene and response management. The goal of this program is to provide the First Responder with the training needed to comply with NFPA 472 Chapter 4 Competencies for the First Responder at the Awareness Level, and 29 CFR 1910.120 OSHA's Hazardous Waste Operations and Emergency Response, (HAZWOPER), First Responder Awareness Level. [Refresher] This program is designed to give the first responder the necessary skills to handle hazardous materials emergencies.

Description of Methodology: Lecture, discussion, demonstration, and supervised practice.

Student Equipment & Supplies: Pen/pencil & notebook.

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Equipment/Audiovisual/Facility/Supply Requirements:

1. Classroom with usual amenities; computer and computer projection equipment with screen; AV CD for the course; below-listed equipment list:
2. One copy of Instructor Guide and PowerPoint Presentation CD
3. One copy of Student Manual for each student (manual will remain in student's possession at course conclusion)
4. Course Resource/Equipment Needs:
 - a. Lessons 1
 - i. 2004 ERG books 24 for each kit
 - b. Exercise
 - i. 2004 ERG Books
 - ii. Material Safety Data Sheets 1 each student
 - iii. Worksheets for students for practical skills
 - c. Written examination
 - i. Standard classroom needs
5. Certification Testing Needs:
 - i. Standard classroom needs
 - ii. 2004 ERG Books

Special Notes & Conditions: Maximum enrollment is 30 students. All course material is the property of the Pennsylvania State Fire Academy; Course materials may be duplicated. Minimum age is 18 due to the Child Labor Law restrictions on minors working at hazmat incidents with a potential exposure to IDLH atmospheres and chemical releases.

Course Outline

<u>Elapsed Time</u>	<u>Topic</u>
1.0 Identification
0.75 Hazardous Material Containers
0.25 Skill: ERG & MSDS Exercises
<hr/> 2.0 Hours	Total Time

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Competency Evaluation Mechanism: Student performance on practical skills evolutions and written examination grade (minimum passing grade of 70% required for successful completion of the course).

Learning Outcomes (Behavioral Objectives): Upon completion of this course, the student shall:

1. The student will identify hazardous materials by occupancy and location, placards and labels
2. The student will utilize the 2004 ERG in researching hazardous materials
3. The student will utilize facility documents in researching hazardous materials
4. The student will identify common facility markings and the NFPA 704 diamond
5. The student will identify the common health hazards and their effects associated with hazardous materials
6. The student will identify the routes of entry of hazardous materials in the human body and their health effects
7. The student will describe the differences between exposure and contamination
8. The student will identify expose terms and their meaning
9. The student will recognize the terms that are applied to the properties of hazardous materials
10. The student will describe the four levels of protection
11. The student will identify various PPE and how they protect the wearer
12. The student will identify various respiratory protection devices and how they protect the wearer
13. The student will identify the various sizes and types of pressurized vessels
14. The student will identify the various sizes and types of non-pressurized vessels
15. The student will describe the effects of stress on containers and their potential outcomes
16. The student will recognize the four common dispersion patterns from container failure
17. The student will describe the dispersion pattern of spilled hazardous material
18. The student will describe methods of mitigation for spill of a liquid hazardous material
19. The student will describe situations when no action would be taken at a hazardous materials incident
20. The student will identify common targets of terrorists
21. The student will describe the effects of a terrorist event
22. The student will describe the effects of various agents used in terrorist events
23. The student will recognize the differences between a criminal and terrorist event
24. The student will identify the five components of an incident command system
25. The student will describe the levels of response for hazardous materials incidents
26. The student will demonstrate skill sets during integrated exercises

Questions/Comments:Curriculum Specialist: Extension 106