FIRE PROTECTION TECHNOLOGY

Certification Guide

Hazardous Materials Awareness

NFPA 472

Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents

2013 Edition

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Basic Certification Information

Each individual seeking International Fire Service Accreditation Congress (IFSAC) accredited certification from Portland Community College (PCC), Fire Protection Technology (FPT) Program MUST do the following:

- Register; and
- Submit an Application for Certification Testing Date.

The Registration and Application for Certification Testing Date MUST be completed online. A list of current fees and the online registration and test date application forms may be found at: http://www.pcc.edu/programs/fire-protection/.

Once a person has Registered and submitted an Application for Certification Testing Date, PCC FPT will evaluate the registration and application to ensure the person meets the criteria for the certification level for which they applied. The requirements for Hazardous Materials Awareness Level Personnel (HMA) certification are located on page 4 of this guidebook. Following the evaluation, the person will be notified whether they meet the criteria for admission into the Certification Process. Upon acceptance into the Certification Process, the person is considered a candidate for certification and has one year to complete the process.


Certification candidates are given two opportunities to successfully complete the written portion of the certification examination component, including the original examination. The candidate must complete the written and retest, if required, within the 12 month certification period. Failure to successfully complete the written, and retest if required, within the 12 month period, will be deemed as failure of the attempted certification level.

Candidates that fail a certification level must reapply by submitting a new Registration and an Application for Certification Testing Date, including appropriate application fees.

HMA Certification Information:

The certification examination process for becoming certified at the HMA level is as follows:

- Candidate must complete the online Registration.
- Candidate must complete the online Application for Certification Testing Date, including a statement of ability to perform skills at least 15 days prior to the requested test date.
- Candidate must take the HMA written examination.
- Written examinations will not be scored at the testing site.
- HMA certification written examination:
  - A score of 70 percent or more is required on the written examination to receive a passing grade on the written portion of the certification examination process.
  - A score of 69 percent or less on the written examination is deemed failing. Candidates that score 69% or less will be deemed to have failed the written portion of the certification examination process.
  - If the test (initial test) is failed, the candidate must schedule a second written test (retest) to occur between 21 days and 6 months following the first failed written test. This second test will be a new, randomly generated, written test.
  - If the second test (retest) is failed, the candidate will be considered to have failed the entire certification process.
- If the certification process is failed, the candidate must wait 12 months, from the original examination date (not the Registration date), to reapply for certification at the HMA level.
If the first written examination is failed, the candidate is responsible for registering online for the retest.

Requirement for admission to the HMA certification written examination process, including retests:

An official government issued ID (state or federal) with picture must be shown for admittance to all examinations, including retests.
Certification Prerequisites and Requirements:

Candidates seeking HMA certification from PCC, FPT must meet the following requirements:

1. Candidates must meet the age and residency requirement as identified in Chapter Four, of PCC, FPT Certification Policy and Procedure Manual, September 2011.
2. Successful completion of the written examination at the HMA level.

Candidates that meet the requirements identified above will be awarded certification at the HMA level and receive a certificate with an official IFSAC seal and registry number.

Certification Examination Process

Written Examination:

- Candidates are required to score a minimum of 70% on the test.
- The HMA test contains 50 multiple choice test items covering HMA level competencies as identified in Chapter 4; of NFPA 472-2013.
- Candidates are allowed one (1) hour to complete the test.
- Test items are constructed using the multiple choice format.

Example:
1. How many tests items are on the Haz Mat Operations certification examination?
   a. 25
   b. 50
   c. 75
   d. 100

References and Textbooks:
Written Examination Study Guide
Hazardous Materials Awareness Personnel Level

Standard:
All written examination test items are based on Chapter 4, Competencies for Awareness Level Personnel of NFPA 472, Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents, 2013 edition. Reference to the NFPA 472 standard in the following study guide material is not the complete or official position of the NFPA. The official position of the NFPA is only represented by the “Standard” when printed in its entirety.

References:
1. Any textbook covering basic hazardous material first responder awareness and operations level knowledge and techniques appropriate for “fire academy” instruction can be used to prepare for the HMA written examination. However, PCC has chosen to adopt and reference the International Fire Service Training Association (IFSTA), Hazardous Materials for First Responders, 4th edition, 2010.

2. The Department of Transportation (DOT), Emergency Response Guidebook (ERG), 2016 edition, is required to answer specific test items included in the HM Awareness test. Candidates are expected to know how to use the ERG prior to the examination. Only a PCC FPT copy of the ERG issued at the time of the examination will be permitted to be used for certification testing. Candidates will not be permitted to use their personal copy of the ERG for certification testing.

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<th>NFPA Standard Section</th>
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<td>• Detect the presence of hazardous materials/WMD</td>
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<td>• Survey a hazardous materials/WMD incident from a safe location to identify name, UN/NA identification number, type of placard, or other distinctive marking applied for the hazardous materials/WMD involved</td>
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<td>• Collect hazard information from the current edition of the DOT Emergency Response Guidebook</td>
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### 4.2.1 Detecting the Presence of Hazardous Materials/WMD

- Definitions of both hazardous material (or dangerous goods, in Canada) and WMD
- UN/DOT hazard classes and divisions of hazardous materials/WMD
- Identify common examples of materials in each hazard class or division
- Primary hazards associated with each UN/DOT hazard class and division
- Difference between hazardous materials/WMD incidents and other emergencies
- Occupancies and locations in the community where hazardous materials/WMD are manufactured, transported, stored, used, or disposed of
- Container shapes that indicate the presence of hazardous materials/WMD
- Transportation markings, including UN/NA identification number marks, marine pollutant mark, elevated temperature (HOT) mark, commodity marking, and inhalation hazard mark
- Military hazardous materials/WMD markings
- Special hazard communication markings for each hazard class
- Pipeline markings
- Container markings
- Significance of the colors, numbers, and special symbols
- U.S. and Canadian placards and labels that indicate hazardous materials/WMD
- Where to find MSDS
- Major sections of an MSDS
- Entries on shipping papers that indicate the presence of hazardous materials
- Name of the shipping papers found in transportation (air, highway, rail, and water)
- Person responsible for having the shipping papers in each mode of transportation
- Where the shipping papers are found in each mode of transportation
- Where the papers can be found in an emergency in each mode of transportation
- Examples of sight, sound, and odor of which indicate hazardous materials/WMD
- Limitations of using the senses in determining the presence or absence of hazardous materials/WMD
- Types of locations that could become targets for criminal or terrorist activity using hazardous materials/WMD
- Difference between a chemical and biological incident
- Indicators of possible criminal or terrorist activity involving chemical agents
- Indicators of possible criminal or terrorist activity involving biological agents
- Indicators of possible criminal or terrorist activity involving radiological agents
- Indicators of possible criminal or terrorist activity involving illicit laboratories (clandestine laboratories, weapons lab, ricin lab)
- Indicators of possible criminal or terrorist activity involving explosives
- Indicators of secondary devices

**IFSTA:**

**DOT:**
1, 6-25
### 4.2.2 Surveying Hazardous Materials/WMD Incidents
- Difficulties encountered in determining the specific names of hazardous materials/WMD at facilities and in transportation
- Sources for obtaining the names of, UN/NA identification numbers for, or types of placard associated with hazardous materials/WMD in transportation
- Sources for obtaining the names of hazardous materials/WMD at a facility

**IFSTA:**
31, 64-65, 107-118, 134-136, 141, 148, 150, 179-180, 196

**DOT:**
1

### 4.2.3 Collecting Hazard Information
- Determining the DOT guidebook page for a hazardous materials/WMD
- General types of hazards found on each DOT *Emergency Response Guidebook* page

**IFSTA:**
170-173, 177

**DOT:**
1

### Planning the Response: 4.3 – Reserved.

### 4.4.1 Initiating Protective Actions
- Identify the location of both the emergency response plan and/or standard operating procedures
- Role of the awareness level personnel during hazardous materials/WMD incidents
- Precautions necessary when providing emergency medical care to victims of hazardous materials/WMD incidents
- Ignition sources found at the scene of hazardous materials/WMD incidents
- Ways hazardous materials/WMD are harmful to people, the environment, and property
- General routes of entry for human exposure to hazardous materials/WMD
- DOT *Emergency Response Guidebook* (ERG) emergency action for fire, spill, or leak and first aid
- ERG initial isolation and protective action distances
- ERG personal protective equipment, including structural fire-fighting protective clothing, positive pressure self-contained breathing apparatus, and chemical-protective clothing
- ERG isolation of the hazard area and denial of entry
- ERG definition of evacuation and sheltering in-place
- ERG size and shape of recommended initial isolation and protective action zones
- Difference between small and large spills as found in the Table of Initial Isolation and Protective Action Distances in the ERG.
- ERG Table of Initial Isolation and Protective Action Distances
- ERG isolation distances in the numbered guides
- Difference between the isolation distances on the orange-bordered guidebook pages and the protective action distances in the green-bordered pages of the ERG
- Techniques used to isolate the hazard area and deny entry to unauthorized persons at hazardous materials/WMD incidents
- Actions necessary when an incident is suspected to involve criminal or terrorist activity

**IFSTA:**

**DOT:**
1, 6 – 25, 289 – 293, 363-264, 370 – 372, 376 – 386
4.4.2 Initiating the Notification Process  
- Initial notifications to be made and how to make them, consistent with the AHJ  

IFSTA: 170

Evaluating the Progress: 4.5 – Reserved.

Terminating the Incident: 4.6 – Reserved.

Cumulative reading pages, for written test, in numerical order:

- Chapter 1: 4, 9-10, 13-33
- Chapter 3: 167-183, 292-304
- Chapter 4: 196, 224
- Chapter 5: 240, 244, 251-252
- Chapter 6: 264, 274-277, 288-290, 296, 303, 320
- Chapter 7: 318, 328, 341-345, 351, 355, 363
- Chapter 8: 383, 399, 409-412
- Chapter 14: 637-638

DOT:
1, 6 – 25, 289 – 293, 363-264, 370 – 372, 376 – 386