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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/](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 Operations Level Responder** (Haz Mat Operations) 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.


**NOTE:** The certification examination process for Haz Mat Operations, in addition to requiring the candidate to know all the competencies identified in Chapter 5 of NFPA 472-2013, requires the candidate to know the JPRs, requisite knowledge, and requisite skills identified in Section 6.2, Mission-Specific Competencies: Personal Protective Equipment and Section 6.6, Mission-Specific Competencies: Product Control of NFPA 472-2013.

The reason for requiring the candidate to know the competencies identified in Sections 6.2 and 6.6, in addition to those identified in Chapter 5 of NFPA 472, is because the Haz Mat Operations certification process is an integral component of the Fire Fighter I level certification process. Section 5.1, of NFPA 1001, *Standard for Fire Fighter Professional Qualifications*, 2013 and 2008 editions state, “…and the requirements defined in Chapter 5, Core Competencies for Operations Level Responders, and Section 6.6, Mission-Specific Competencies: Product Control, of NFPA 472, *Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents*.”

As a result, all candidates seeking Hazardous Materials Operations Level Responder certification are required to know the core competencies identified in Sections 6.2 & 6.6 of NFPA 472-2013, as well as those in Chapter 5.

Certification candidates are given two opportunities to successfully complete the written and skills portions of the certification examination component, including the original examination. The candidate must complete both the written and skills portions within the 12 month certification period. Failure to successfully complete all portions (written and skill examinations) 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.
Haz Mat Operations Certification Information:

The certification examination process for becoming certified as a Haz Mat Operations Level Responder 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 Haz Mat Operations written examination and skills examination (written and skill testing). NOTE: The written and skills tests may be taken on the same testing date or on different testing dates, i.e., the written may be taken on one date and the skills may be taken at a later date as long as it occurs within the 12 month certification period.
- Written examinations will not be scored at the testing site.
- Haz Mat Operations certification written examination:
  - The written examination includes three parts.
  - A score of 70 percent or more is required on each part of the written examination to receive a passing grade on the written portion of the certification examination process. The following are the three parts included in the written examination:
    - Chapter 5, NFPA 472, Operations Level Responder
    - Section 6.2, NFPA 472, Mission-Specific Competencies: Personal Protective Equipment
    - Section 6.6, NFPA 472, Mission-Specific Competencies: Product Control
  - A score of 69 percent or less on any part of the written examination is deemed failing. Candidates that score 69 percent or less on any part of the written examination 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.
- Haz Mat Operations certification skills examination:
  - Candidates will be tested over a minimum of three (3) randomly selected skill events, including at least one skill from each of the following:
    - Chapter 5, NFPA 472, Operations Level Responder
    - Section 6.2, NFPA 472, Mission-Specific Competencies: Personal Protective Equipment
    - Section 6.6, NFPA 472, Mission-Specific Competencies: Product Control
  - Candidates should be prepared to test on any skill event listed in the Skill Assessment Guide found on page 21 of this study guide.
  - Skill event examinations are assessed on a Pass/Fail basis.
  - ALL skill events selected as part of the certification examination process must be passed to receive a passing score for the skills examination component of the certification process.
  - The candidate will be considered to have passed the skills assessment portion of the certification examination process if all skill events tested during the certification skills examination portion are passed on either the first or second attempt.*
* IMPORTANT NOTE: During the first skills examination, the candidate will be provided two attempts to pass each skill event. If the first attempt is failed, the candidate will, immediately, be provided a second attempt to pass the skill event. If the second attempt is failed, the candidate will be considered to have failed the event.
  - Candidates that fail one skill event are not considered to have failed the entire skills examination process, but only that individual event.
  - Candidates that fail one event must retest the skill event failed and one randomly selected event.
  - Candidates that fail two skill events will be considered to have failed the entire skill examination test and must retest an entire new set of skill events consisting of a minimum of three (3) randomly selected skill events, including at least one skill from each of the previously identified list.
  - The skill retest must be scheduled to occur between 21 days and 6 months following the first failed test.
The second test (retest) will be conducted as follows:
- The candidate will be given “one attempt” (not two attempts as provided in the first test) to pass each failed skill event from the first skills test.
- If the skill events failed as part of the first skill test are passed on the first attempt, the candidate will be required to pass an additional, randomly selected skill event for each event failed during the first test. NOTE: The candidate will be provided two attempts to pass each of the randomly selected skill events.
- If the original skill events and the randomly selected events are passed, the candidate will be deemed to have passed the skills examination portion of the certification examination process.
- If the candidate fails to pass the skill event, or events, failed during the first test or fails a randomly selected skill event during the retest, the candidate will be deemed 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 Haz Mat Operations Responder Level.
- If a skill or written examination is failed during the first test, the candidate is responsible for registering online for the retest.

**Requirement for admission to the Haz Mat Operations certification written and/or skills examination process, including retests:**

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

- **Candidates must provide proof of certification to Chapter 4, Awareness Level Personnel, NFPA 472, Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents, 2013 or 2008 Edition. Documentation of certification must include a certificate with an IFSAC seal and registry number.**

- **NOTE:** Candidates are permitted to pursue Hazardous Materials Awareness Level Personnel certification simultaneously with Haz Mat Operations certification.
Certification Prerequisites and Requirements:

Candidates seeking Haz Mat Operations certification from PCC, FPT must meet the following requirements:

2. Successful completion of written and skills examination at the Haz Mat Operations level.

NOTE: Candidates are permitted to pursue Hazardous Materials Awareness Level Personnel certification simultaneously with Haz Mat Operations.

Candidates that meet all the identified requirements will be awarded certification at the Haz Mat Operations Responder Level and receive a certificate with an official IFSAC seal and registry number.
Certification Examination Process

Written Examination:

- The Haz Mat Operations certification written test consists of a total of 100 multiple choice test items. The test items cover Haz Mat Operations level knowledge requirements as identified in Chapter 5 (80 test items); Mission-Specific Competencies: Personal Protective Equipment knowledge requirements as identified in Section 6.2 (10 test items); and Mission-Specific Competencies: Product Control knowledge requirements as identified in Section 6.6 (10 test items) of NFPA 472-2013.
- Candidates are required to score a minimum of 70% on each part of the written test, i.e., 70% on the Chapter 5 test items, 70% on the Section 6.2 test items, and 70% on the Section 6.6 test items. Failure to achieve 70% on any part of the test will result in failure of the entire test.
- Candidates are allowed two (2) hours to complete the test.
- Test items are constructed using the multiple choice format.

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

Skills Examination:
The Haz Mat Operations skills examination component of the certification examination consists of practical skill assessments based on the Core Competencies listed in Chapter 5; Section 6.2; and Section 6.6 of NFPA 472-2013.

- Candidates will be assessed on a minimum of three (3), randomly selected skill events, including at least one skill from Chapter 5; one skill from Section 6.2; and one skill from Section 6.6 of NFPA 472-2013.
- Candidates will be required to pass all skill examinations assessed.
- All skill examinations are scored on a pass/fail basis.
- All skill evaluation forms are included in this guide.

References and Textbooks:
Required Equipment
For
Haz Mat Operations
Certification Examination

1. Each candidate applying to certify at the Haz Mat Operations level is required to bring the following NFPA compliant personal protective clothing and equipment to the test site:
   - Structural fire fighting helmet.
   - Structural fire fighting gloves.
   - Structural fire fighting boots (leather or rubber).
   - Structural fire fighting protective hood.
   - Structural fire fighting turnout coat.
   - Structural fire fighting turnout pants with suspenders.
   - Safety glasses or goggles (ANSI Standard Z87.1 compliant).
   - Self-contained breathing apparatus (SCBA). NOTE: SCBA may be shared among candidates from the same department so long as each candidate has his/her own facepiece.

   OR

   - EPA Level B or Level C chemical protective clothing (CPC).
   - Appropriate respiratory protection for the level of CPC to be used.
   - Appropriate head protection for the level of CPC to be used.
   - Appropriate hand protection for the level of CPC to be used.
   - Appropriate foot protection for the level of CPC to be used.

2. The following are recommended, but not required of candidates:
   - NFPA compliant uniform “t-shirt”
   - NFPA compliant uniform pants
   - Outer garment suitable for the weather
   - Water or sports drink for hydration

Mask Fit Compliance:

Candidates with beards, facial hair, or unshaven in the area of the RESPIRATORY PROTECTION FACEPIECE seal WILL NOT be permitted to participate in the skills testing portion of the Haz Mat Operations certification skills examination.
Written Examination Study Guide

Standard:
All written examination test items are based on Chapter 5, Core Competencies for Operations Level Responders; Section 6.2, Mission Specific Competencies: Personal Protective Equipment; and Section 6.6, Mission Specific Competencies: Product Control 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 Haz Mat Operations 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 Operations 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.

3. Any document or material consistent with the United Nations (UN) Globally Harmonized System of Classification and Labeling of Chemicals (GHS) describing Hazard Communication: Safety Data Sheets can be used to prepare for test items included in the HM Operations written examination that assess section 5.2.2 of NFPA 472, *Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents*, 2013 edition. For reference purposes, PCC has chosen to adopt the United States Department of Labor, Occupational Safety and Health Administration (OSHA), Brief, describing Hazard Communication Standard: Safety Data Sheets. The OSHA Brief can be found on the web at: [https://www.osha.gov/Publications/OSHA3514.html](https://www.osha.gov/Publications/OSHA3514.html)

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<td><strong>5.1.2.2</strong></td>
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<tr>
<td>• Survey of containers and materials and evaluate surrounding conditions</td>
<td>IFSTA: 65 – 162, 171, 214, 279, 444</td>
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<tr>
<td>• Collect hazard and response information from MSDS and CHEMTREC; local, state and federal authorities; and shipper/manufacturer</td>
<td>DOT: 1, 4, 6 – 25, 289 – 293, 370 – 372</td>
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<tr>
<td>• Predict behavior of a hazardous material/WMD and its container</td>
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<tr>
<td>• Estimate potential harm at the hazardous materials/WMD incident</td>
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<td>• Response objectives for the hazardous materials/WMD incident</td>
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<tr>
<td>• Personal protective equipment appropriate for implementing objectives</td>
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<td>• Emergency decontamination procedures</td>
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<tr>
<td>• Plan of action, including safety considerations</td>
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HAZ MAT OPERATIONS – CHAPTER 5
### 5.2.1.1.1
- **Tank cars by type:**
  - Cryogenic liquid tank cars
  - Nonpressure tank cars (general service or low pressure cars)
  - Pressure tank cars

| IFSTA:  | 79 - 82 |
|DOT:    | 12-13  |

### 5.2.1.1.2
- **Intermodal tanks by type:**
  - Nonpressure intermodal tanks
  - Pressure intermodal tanks

- **Specialized intermodal tanks:**
  - Cryogenic intermodal tanks
  - Tube modules

| IFSTA:  | 92 – 95, 133-134 |
|DOT:    | 12-13       |

### 5.2.1.1.3
- **Cargo tanks by type**
  - Compressed gas tube trailers
  - Corrosive liquid tanks
  - Cryogenic liquid tanks
  - Dry bulk cargo tanks
  - High pressure tanks
  - Low pressure chemical tanks
  - Nonpressure liquid tanks

| IFSTA:  | 85 - 91 |
|DOT:    | 12-13   |

### 5.2.1.1.4
- **Storage tanks by type:**
  - Cryogenic liquid tank
  - Nonpressure tank
  - Pressure tank

| IFSTA:  | 73 – 76, 78 – 79 |

### 5.2.1.1.5
- **Nonbulk packaging by type:**
  - Bags
  - Carboys
  - Cylinders
  - Drums
  - Dewar flask (cryogenic liquids)

| IFSTA:  | 100 - 104 |

### 5.2.1.1.6
- **Characteristics of each container or package by type**
  - Intermediate bulk container (IBC)
  - Ton container

| IFSTA:  | 100 - 102 |

### 5.2.1.1.7
- **Characteristics of each radioactive material container or package by type:**
  - Excepted
  - Industrial
  - Type A
  - Type B
  - Type C

| IFSTA:  | 104 - 105 |
|DOT:    | 371 - 372 |
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<tr>
<td>o Intermodal equipment including tank containers</td>
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<td>o Hazard statement</td>
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<td>o Name of pesticide</td>
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<tr>
<td>o Pest control product (PCP) number (in Canada)</td>
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<tr>
<td>o Precautionary statement</td>
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<tr>
<td>o Signal word</td>
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<td>1, 4.5</td>
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<td></td>
<td>DOT:</td>
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<td></td>
<td>370 - 372</td>
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5.2.2 Collecting Hazard and Response Information

- Definitions associated with the UN/DOT hazard classes and divisions of hazardous materials/WMD
- Ways to obtain an MSDS in an emergency
- MSDS hazard and response information:
  - Physical and chemical characteristics
  - Physical hazards of the material
  - Health hazards of the material
  - Signs and symptoms of exposure
  - Routes of entry
  - Permissible exposure limits
  - Responsible party contact
  - Precautions for safe handling (including hygiene practices, protective measures, and procedures for cleanup of spills or leaks)
  - Applicable control measures including personal protective equipment
  - Emergency and first-aid procedures
- Type of assistance provided by CHEMTREC
- Procedure for contacting CHEMTREC
- Information to be furnished to CHEMTREC
- Methods of contacting the manufacturer or shipper to obtain hazard and response information
- Type of assistance provided by governmental authorities with respect to criminal or terrorist activities involving the release or potential release of hazardous materials/WMD
- Procedure for contacting local, state, and federal authorities
- Properties and characteristics of the following:
  - Alpha radiation
  - Beta radiation
  - Gamma radiation
  - Neutron radiation

**Related References**


**OSHA Brief – SDS:** 1-5

**DOT:** 1, 4 – 5
5.2.3 Predicting the Likely Behavior of a Material and its Container

- Significance and impact of the following chemical and physical properties on the behavior of the container and its contents:
  - Boiling point
  - Chemical reactivity
  - Corrosivity (pH)
  - Flammable (explosive) range [lower explosive limit (LEL) and upper explosive limit (UEL)]
  - Flash point
  - Ignition (autoignition) temperature
  - Particle size
  - Persistence
  - Physical state (solid, liquid, gas)
  - Radiation (ionizing and non-ionizing)
  - Specific gravity
  - Toxic products of combustion
  - Vapor density
  - Vapor pressure
  - Water solubility

- Differences between the following:
  - Contamination and secondary contamination
  - Exposure and contamination
  - Exposure and hazard
  - Infectious and contagious
  - Acute effects and chronic effects
  - Acute exposures and chronic exposures

- Types of stress that can cause a container system to release its contents
- Ways in which containers can breach
- Ways in which containers can release their contents
- Dispersion patterns that can be created upon release of a hazardous material
- Time frames for estimating the duration that hazardous materials/WMD will present an exposure risk.
- Health and physical hazards that could cause harm
- Health hazards associated with the following
  - Alpha, beta, gamma and neutron radiation
  - Asphyxiant
  - Carcinogen
  - Convulsant
  - Corrosive
  - Highly toxic
  - Irritant
  - Sensitizer, allergen
  - Target organ effects
  - Toxic

- UN/DOT hazard class and divisions for the following:
  - Blood agents
  - Biological agents and biological toxins
  - Choking agents
  - Irritants (riot control agents)
  - Nerve agents
  - Radiological materials
  - Vesicants (blister agents)
### 5.2.4 Estimating Potential Harm

- Resources for determining the size of an endangered area of a hazardous materials/WMD incident
- Dimensions of the endangered area and the surrounding conditions at a hazardous materials/WMD incident
- Estimating the number and type of exposures within an endangered area
- Resources available for determining the concentrations of a released hazardous material/WMD
- Determining the extent of physical, health, and safety hazards within the endangered area of a hazardous materials/WMD incident
- Impact that time, distance, and shielding have on exposure to radioactive materials specific to the expected dose rate

**IFSTA:**

20-21, 516, 528, 530, 532, 538, 152, 171 – 179, 218 – 223, 270 – 275, 367

**DOT:**

4

### 5.3.1 Describing Response Objectives

- Exposures that could be saved
- Steps for determining response objectives
- How to assess the risk to a responder for each hazard class in rescuing injured persons at a hazardous materials/WMD incident
- Potential for secondary attacks and devices at criminal or terrorist events

**IFSTA:**


**DOT:**

### 5.3.2 Identifying Action Options

- Options to accomplish response objectives
- Prioritization of emergency medical care and removal of victims from the hazard area relative to exposure and contamination concerns

**IFSTA:**

266 – 306, 441

**DOT:**

### 5.3.3 Determining Suitability of Personal Protective Equipment

- Advantages, limitations, uses, and operational components of the following types of respiratory protection:
  - Positive pressure self-contained breathing apparatus (SCBA)
  - Positive pressure air-line respirator with required escape unit
  - Closed-circuit SCBA
  - Powered air-purifying respirator (PAPR)
  - Air-purifying respirator (APR)
  - Particulate respirator
- Required physical capabilities and limitations of personnel working in respiratory protection
- Skin contact hazards encountered at hazardous materials/WMD incidents
- Purpose, advantages, and limitations of the following types of protective clothing:
  - Liquid splash-protective clothing and vapor-protective clothing
  - High temperature protective clothing (proximity suit and entry suits)
  - Structural fire-fighting protective clothing

**IFSTA:**

33, 383 – 390, 392, 397 – 404, 409-411, 419 - 422

**DOT:**

363 - 364
### 5.3.4 Identifying Decontamination Issues

- Ways people, personal protective equipment, apparatus, tools, and equipment become contaminated
- Potential for secondary contamination
- Importance and limitations of decontamination procedures at hazardous materials incidents
- Purpose for emergency decontamination procedures at hazardous material incidents
- Methods, advantages, and limitations of emergency decontamination procedures

**IFSTA:** 177, 434 - 457  
**DOT:** 373

### 5.4.1 Establishing Scene Control

- Procedures for establishing scene control through control zones
- Criteria for determining the locations of the control zones at hazardous materials/WMD incidents
- Basic techniques for the following protective actions at hazardous materials/WMD incidents:
  - Evacuation
  - Shelter-in-place
- Items in a safety briefing prior to allowing personnel to work at the following:
  - Hazardous materials incidents
  - Hazardous materials/WMD incidents involving criminal activities
- Procedures for ensuring coordinated communication between responders and public

**IFSTA:** 177, 434 - 457  
**DOT:** 291 – 295, 361 - 375

### 5.4.3 Initiating the Incident Command System

- Role of the operations level responder during hazardous materials/WMD incidents
- Levels of hazardous materials/WMD incidents
- Purpose, need, benefits and elements of the incident command system for hazardous materials/WMD incidents
- Duties and responsibilities of the following functions within the incident management system:
  - Incident safety officer
  - Hazardous materials branch or group
- Considerations for determining the location of the incident command post for a hazardous materials/WMD incident
- Procedures for requesting additional resources at a hazardous materials/WMD incident
- Role and response objectives of other agencies that respond to hazardous materials/WMD incidents

**IFSTA:** 14 – 15, 235 – 255, 275 – 279, 290, 292 – 293, 320 596  
**DOT:** 4 - 5
### 5.4.4 Using Personal Protective Equipment
- Importance of the buddy system
- Importance of the backup personnel
- Safety precautions to be observed when approaching and working at hazardous materials/WMD incidents
- Signs and symptoms of heat and cold stress and procedures for their control
- Capabilities and limitations of personnel working in the personal protective equipment
- Procedures for cleaning, disinfecting, and inspecting personal protective equipment
- Maintenance, testing, inspection, and storage procedures for personal protective equipment

**IFSTA:**
177, 158-287, 295 – 298, 381 – 421, 423

**DOT:**
363 - 364

### 5.5.1 Evaluating the Status of Planned Response
- Considerations for evaluating whether actions taken were effective in accomplishing the objectives
- Circumstances under which it would be prudent to withdraw from a hazardous materials/WMD incident

**IFSTA:**
282, 286, 288, 297

### 5.5.2 Communicating the Status of Planned Response
- Methods for reporting the status of the planned response
- Methods for immediate notification of the incident commander and other response personnel about critical emergency conditions

**IFSTA:**
170, 236, 255 – 258, 297 - 298

**Terminating the Incident:** 5.6 – Reserved.
### 6.2.3.1 Selecting Personal Protective Equipment

- Types of protective clothing and equipment for hazardous materials response
- Personal protective equipment for the following:
  - Thermal
  - Radiological
  - Asphyxiating
  - Chemical
  - Etiological/biological
  - Mechanical
- Selecting personal protective equipment for mission-specific tasks
- Impact and significance on the selection of chemical-protective clothing of:
  - Degradation
  - Penetration
  - Permeation
- Indications of material degradation of chemical-protective clothing
- Advantages and disadvantages of vapor-protective and splash-protective clothing
- Relative advantages and disadvantages of the following heat exchange units used for the cooling of personnel operating in personal protective equipment:
  - Air cooled
  - Ice cooled
  - Water cooled
  - Phase change cooling technology
- Physiological and psychological stresses affecting users of personal protective equipment
- Procedures for going through technical decontamination

**IFSTA:**
175, 381-387, 392, 401–406, 408-410, 413, 416, 419 – 423, 444 – 451, 468

**DOT:**
363 - 364

### 6.2.4.1 Using Protective Clothing and Respiratory Protection

- Safety procedures for personnel wearing protective clothing
- Emergency procedures for personnel wearing protective clothing
- Maintenance, testing, inspection, storage, and documentation procedures for personal protective equipment

**IFSTA:**
175, 381-387, 392, 401–406, 408-410, 413, 416, 419 – 423, 444 – 451, 468

**DOT:**
363 - 364
### HAZ MAT OPERATIONS – SECTION 6.6

#### Mission Specific Competencies: Product Control – 6.6

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**Cumulative reading pages, for written test, in numerical order.**

**IFSTA, Hazardous Materials for First Responders Handbook, 4th Edition:**
- Chapter 6: 175, 381-387, 392, 401-406, 408-410, 413, 416, 419-423, 444-452, 468, 476-505

**DOT:**
1, 4 – 25, 289 – 295, 359 – 386

**OSHA Brief: Safety Data Sheets**
1-5
Skills Examination Study Guide

Standard:
All skills examination test items are based on Chapter 5, Core Competencies for Operations Level Responders, Section 6.2, Mission-Specific Competencies: Personal Protective Equipment, and Section 6.6, Mission-Specific Competencies: Product Control, NFPA 472, Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents, 2013 Edition. This 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:
Textbook: Any textbook covering basic hazardous materials knowledge and techniques for first responder personnel and operations level responders appropriate for instruction can be used to prepare for the HM Operations written examination. However, PCC has chosen to adopt and reference one textbook: International Fire Service Training Association (IFSTA), Hazardous Materials for First Responders, 4th edition, 2010. NOTE: In the matrix below, “N/A” indicates a skill sheet is Not Available.


HAZ MAT OPERATIONS – CHAPTER 5

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<td>• Demonstrate emergency decontamination</td>
<td>IFSTA 9-1 p. 466</td>
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<tr>
<td>• Evaluate the status of the actions taken in accomplishing the response objectives</td>
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Implementing the Planned Response: 5.4

• Demonstrate the ability to perform emergency decontamination

Evaluating Progress: 5.5

• Communicate the status of the planned response through the normal chain of command
### HAZ MAT OPERATIONS – SECTION 6.2

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### HAZ MAT OPERATIONS – SECTION 6.6

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<td>• Demonstrate control functions set out in the plan</td>
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<td>• Demonstrate the application of the foam(s) or agent(s) on a spill or fire involving hazardous materials/WMD</td>
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*IFSTA Hazardous Materials for First Responders, 4th edition, Skill Sheets, in numerical order: 3-1, 8-1, 9-1, 9-2, 9-3, 10-1, 10-2, 10-3, 10-4, 10-5, 10-6, 10-7, 10-8, 10-9*

Haz Mat Operations

Skill Assessment Guides
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Portland Community College
Operations Level Responder

SKILL SHEET #1: IMPLEMENT THE PLANNED RESPONSE

Competency: NFPA 472-2013, Chapter 5, Sections 5.1.2.2(3)(a-d) & 5.1.2.2(4)(a-b).

SKILL SHEETS: No skill sheet in IFSTA Hazardous Materials For First Responders.
pp. 1-2, 4-19, 368-370, 374-382.

Required Candidate Equipment: Personal Protective Clothing.

Required Instructor Equipment: Scenario, Scene Tape, Traffic Cones, Portable Radios.

Read To Candidate:
At this station, you will be required to initiate the Incident Command System (ICS); transfer Command; and after transferring command, implement actions as described in the incident action plan (IAP). I will serve as the Battalion Chief. You are required to wear personal protective, but do not need to wear RESPIRATORY PROTECTION. You are required to establish scene control zones, establish an emergency decontamination area (you do not need to establish emergency decontamination), establish means for evidence preservation (if appropriate), and communicate status of procedures to Command. You should not enter the “Hot Zone” when performing your assigned tasks. Entry into the “Hot Zone” will constitute failure of this skill event (skill assessment item #8 below).

This is not a timed event, but you should complete the assignment as expeditiously as possible. To pass this station, you must successfully complete 100% of the critical steps (steps in BOLD) and a majority of the non-critical steps (steps in italics).

P-Pass / F-Fail

1st Attempt 2nd attempt

1. Initiated an ICS.
2. Transferred command.
3. Confirmed order to establish scene control procedures and emergency decontamination area based on IAP.
4. Established scene control procedures.
5. Established control zones.
7. Established emergency decontamination area.
8. Remained outside Hot Zone.
9. Notified Command when scene control procedures and emergency decontamination area have been established.
10. Established means of evidence preservation (if suspected criminal or terrorist act).
11. Performed assigned tasks as identified in IAP.
12. Evaluated the status of the scene control procedures.
13. Communicated the status of the scene control procedures to Command.

Candidate’s Name: ____________________________ Station: P ___ F ___ P ___ F ___

Evaluator’s Signature: ____________________________
SKILL SHEET #2: EMERGENCY DECONTAMINATION

Competency: NFPA 472-2013, Chapter 5, Section 5.1.2.2(3)(e) & 5.4.1(4).

SKILL SHEETS: 9-1 (pp. 466)

Required Candidate Equipment: Structural PPE ensemble, respiratory protection.

Required Instructor Equipment: Victim, Water, Hose Line.

Read To Candidate:
At this station, you will be given a simulated victim who has been exposed to a hazardous material and requires emergency decontamination. You will be required to direct the victim from the contaminated area to the emergency decontamination area and perform emergency decontamination actions. During this test, you will not be responsible for containing run-off from the emergency decontamination area. However, if the run-off runs into the area where you or other responders are located, you will fail this assessment. You will be responsible to isolate and deny entry to the decontamination run-off area during and after you complete decontamination of the victim.

Removal of the victim’s clothing will be simulated. If the simulated victim is a fire service responder, you must flush with water and then direct the person to remove their PPE and respiratory protection. After completing emergency decontamination, the simulated victim must be transferred to medical personnel for follow-up. Your assignment will be completed when you communicate appropriate information to medical personnel and the Incident Commander. I will serve as both the medical personnel and Incident Commander for the scenario.

To pass this station, you must successfully complete 100% of the critical steps (steps in BOLD) and a majority of the non-critical steps (steps in italics).

P-Pass / F-Fail
1st Attempt 2nd attempt

1. Confirmed order to establish emergency decon.  
2. Determined PPE requirement and donned PPE.  
3. Removed victim from contaminated area without becoming cross-contaminated or coming in contact with the contaminant.  
4. Positioned hose line up-hill and up-wind. (run-off must not run into area with responders)  
5. Flushed victim with copious quantities of water.  
6. Had victim remove clothing and/or PPE.  
7. Flushed victim again with copious quantities of water.  
8. Transferred victim to medical personnel.  
9. Emergency decon personnel were flushed with copious quantities of water.  
10. Emergency decon personnel removed PPE and respiratory protection.  
11. Isolated and denied entry to emergency decon area and decon water run-off area.  
12. Reported completion of assignment.

Candidate’s Name: ___________________________ Station: P ___ F ___ P ___ F ___  
Evaluator’s Signature: _______________________  
1st Attempt 2nd attempt

April 2017  HM Operations Certification Guidebook  
NFPA 472-2013
Portland Community College  
Operations Level Responder  

SKILL SHEET #3: DON, DOFF, & WORK IN PPE

Competency:  NFPA 472-2013, Chapter 6, Section 6.2.4.1 and Section 6.2.4.1(3).

SKILL SHEETS: 8-1 (pp. 425-428).

Required Candidate Equipment:  Structural Firefighters Protective Clothing and self contained breathing apparatus (PPE) OR Chemical Protective Clothing (CPC) and respiratory protection (SCBA or air-purifying respirator) if used by candidate’s organization.

Required Instructor Equipment:  Barrier Tape, Safety Cones.

Read To Candidate:  
There are three parts for this skill event. Each part will be evaluated. In Part I, you will be required to demonstrate donning personal protective equipment (PPE) provided by your organization, including respiratory protection. There are two PPE donning Options. The PPE Option you are required to demonstrate will be determined based on your organization’s requirements, e.g., your organization requires members to use chemical protective clothing including respiratory protection or your organization only uses structural firefighter protective clothing including SCBA. The exact sequence of donning your PPE and respiratory protection will not be evaluated. However, once donned, all components of the PPE (and respiratory protection) must be correctly worn. Once you advise me you have completed donning your PPE, you ARE NOT permitted to touch it until I complete the evaluation. NOTE: the donning portion is not timed, but should be accomplished within a reasonable time.

In Part II, you will be required to demonstrate the ability to work in PPE. I will assign you a mission-specific task to perform. NOTE: Only the ability to work in PPE is assessed on this skill sheet. The mission-specific task is assessed using Skill Sheet #6.

In Part III, you will be required to demonstrate the ability to doff PPE. You will demonstrate doffing your PPE after perform the mission-specific task I assigned. The exact sequence of doffing your PPE and respiratory protection will not be evaluated. However, once doffed; it must be properly handled, e.g., prevent exposure and/or cross contamination. NOTE: the doffing portion is not timed, but should be accomplished within a reasonable time.

The skills demonstrated during this assessment are not timed, but should be accomplished within a reasonable time. To pass this station, you must successfully complete 100% of the critical steps (steps in **BOLD**) and a majority of the non-critical steps (steps in *italics*) in **ALL THREE PARTS**.


P-Pass / F-Fail

1st Attempt  2nd attempt

Skill Demonstration: Part I

OPTION A: Donning structural firefighters’ protective clothing

1. Donned boots, turnout pants, and suspenders. (Check to Ensure: All fasteners secured)
2. Donned protective hood. (Check to Ensure: Hood is around neck and under coat)
3. Donned turnout coat. (Check to Ensure: All fasteners (including collar) are secured)
4. Donned SCBA. (Check to Ensure: Cylinder valve fully opened and gauges checked)
5. All SCBA straps secured and tightened. (Check to Ensure: facepiece regulator hose is not caught in straps)
6. Donned and checked facepiece for seal.
7. Pulled hood over facepiece straps.
8. Replaced helmet & fastened chinstrap.
9. Connected regulator correctly to facepiece.
10. Breathed air from the SCBA.
11. Donned gloves.
12. Team member visually inspected PPE.

OPTION B: Donning chemical protective clothing

1. Performed a visual inspection of CPC for damage or defects.
2. Donned CPC. (Including helmet if required by AHJ)
3. All CPC closures secured.
4. Donned work boots.
5. Donned respiratory protection.
6. Respiratory protection secured and tightened.
7. Breathed through respiratory protection.
8. Donned inner gloves.
10. Team member visually inspected CPC.

Skill Demonstration: Part II

Worked in PPE (assessed while performing operations level mission-specific task)

13. Confirmed work assignment with officer.
14. Checked PPE to ensure it is donned properly prior to entering work area.
15. Performed work without compromising the integrity of PPE.
16. Exited work area prior to removing PPE.
17. Reported completion of work assignment.
P-Pass / F-Fail

1st Attempt  2nd Attempt

Skill Demonstration: Part III
Doffing Personal Protective Equipment

18. **Doffed PPE** (structural firefighters’ protective clothing or CPC – took precautions to prevent exposure and/or cross contamination while doffing PPE)

19. **Doffed SCBA/Respiratory Protection.**

20. **Closed cylinder valve** (if applicable).

21. **Bled air from system** (if applicable).

22. **Disarmed PASS device** (if applicable).

23. **Replaced or disposed of CPC according to procedures.**

24. **Prepares structural firefighters’ protective clothing for reuse if not contaminated.** *(NOTE: after candidate checks SCBA, advise the SCBA does not require decon)*

25. **Checked SCBA/respiratory protection for damage and need for decontamination.** *(NOTE: after candidate checks SCBA, advise the SCBA does not require decon)*

26. **Replaced SCBA air cylinder or replaced APR filter.**

27. **Returned respiratory protection to ready state.** *(NOTE: atmosphere supplying respirators may be used in place of SCBA and APRs for testing.)*

Candidate’s Name: ____________________________ Station: P ___ F__ 1st Attempt  P ___ F__ 2nd attempt

Evaluator’s Signature: ____________________________
Portland Community College
Operations Level Responder

SKILL SHEET #4: COMPLETE REPORTING & DOCUMENTATION REQUIREMENTS

Competency: NFPA 472-2013, Chapter 6, Section 6.2.5.1.

SKILL SHEETS: 3-1 (pp. 184-187).

Required Candidate Equipment: Station uniform.

Required Instructor Equipment: HazMat Scenario, HazMat Incident Form, Pencil, Emergency Response Guide (ERG), HazMat Reference Material.

Read To Student:
At this station, you will be provided with a tactical scenario representing a hazardous materials/weapons of mass destruction (HM/WMD) incident. You will also be provided with hazardous materials incident forms, a copy of the DOT Emergency Response Guide (ERG), and other hazardous materials references as appropriate. You should complete all portions of the hazardous materials incident forms as if you are the first responder on the scene and are temporarily in command until such time as an officer of a higher rank arrives. You are to document all assessment and reporting requirements on the hazardous materials incident forms. Some of the things to complete include – but are NOT limited to – level of PPE & respiratory protection required and method(s) of controlling the product.

Complete as much of the form as you can from the information provided in the scenario and from what you can derive from the ERG.

This is not a timed event, but you should complete the assignment as expeditiously as possible. To pass this station, you must successfully complete 100% of the critical steps (steps in BOLD) and one of the two non-critical steps (steps in italics).

P-Pass / F-Fail

<table>
<thead>
<tr>
<th>1st Attempt</th>
<th>2nd attempt</th>
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<tbody>
<tr>
<td>___ ___</td>
<td>1. Appropriate hazardous materials incident forms completed based on scenario information.</td>
</tr>
<tr>
<td>___ ___</td>
<td>2. Completed hazardous materials incident forms consistent with emergency response plan.</td>
</tr>
<tr>
<td>___ ___</td>
<td>3. Personal protective equipment identified based on incident requirements.</td>
</tr>
<tr>
<td>___ ___</td>
<td>4. Information accurate based on resources/references provided.</td>
</tr>
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</table>

Candidate’s Name: ___________________________ Station: P ___ F ___ P ___ F ___
1st Attempt 2nd attempt

Evaluator’s Signature: ___________________________
Portland Community College
Operations Level Responder

SKILL SHEET #5: PRODUCT CONTROL: USE HAZARD SUPPRESsing FOAMS OR AGENTS

Competency: NFPA 472-2013, Chapter 6, Section 6.6.4.1(1).

SKILL SHEETS: No skill sheet in IFSTA Hazardous Materials For First Responders.

Required Candidate Equipment: Structural PPE ensemble, respiratory protection.


Read To Candidate:
At this station, you are required to demonstrate the use of hazard suppressing foams to control a simulated hazardous materials ignitable liquid spill or fire. You will operate as a member of a team to demonstrate proper application of foam. I will indicate the type spill or fire you are required to control. You must select the proper type of foam concentrate, assemble the foam stream components, and then apply the foam stream on the simulated ignitable liquid to control the release. Once the vapor has been suppressed and/or fire extinguished, your team must maintain a foam stream for protection and continue facing the hazard while retreating to a safe haven.

This is not a timed event, but you should complete the assignment as expeditiously as possible. To pass this station, you must successfully complete 100% of the critical steps (steps in BOLD) and a majority of the non-critical steps (steps in italics).

P-Pass / F-Fail

1st Attempt 2nd attempt

1. Selected proper type of foam concentrate for ignitable liquid.
2. Assembled foam stream components.
3. Safely approached the spill/fire as a member of a team.
4. Applied foam stream to surface using appropriate application technique.
5. Maintained foam blanket.
6. Team retreated while facing hazard, reaching a safe haven.

Candidate’s Name: ___________________________ Station: P ____ F ____ P ____ F ____
1st Attempt 2nd attempt

Evaluator’s Signature: ____________________________
Portland Community College
Operations Level Responder

SKILL SHEET #6A: PRODUCT CONTROL: ABSORPTION

**Competency:** NFPA 472-2013, Sections 6.6.4.1 & 6.6.4.1(3)(a).

SKILL SHEETS:10-1 (pp. 496).

**Required Candidate Equipment:** PPE ensemble, respiratory protection.

**Required Instructor Equipment:** Absorbent material and Simulated incident.

**Read To Student:**
At this station, you will demonstrate how to perform product control activities. You will operate as a member of a team. There are two **Parts** for this skill event. You are required to demonstrate both **Parts**.

In **Part I**, you are required to demonstrate basic product control functions. You are required to determine where the assigned confinement/spill control action will be performed, including determining wind direction, terrain, and hot zone (you are required to operate outside the hot zone). You must verbalize your thoughts regarding these items. **NOTE:** Skill Demonstration Item #4, in the list below, will be determined by completing **Part II** of this skill sheet.

In **Part II**, you are required to demonstrate the confinement/spill control action, I assign, using defensive tactics. There is more than one way to accomplish a confinement/spill control action. You will not be assessed on the specific way you perform the confinement/spill control action, but rather on your ability to accomplish the specific assigned confinement/action using defensive tactics to control the product. You are required to demonstrate the confinement/spill control action while wearing the PPE you donned in **Part II of Skill Sheet #3.** **NOTE:** The confinement/spill control action assigned must be performed within the limits of an “operations level responder” and your training.

This is not a timed event, but you should complete the assignment as expeditiously as possible. To pass this station, you must successfully complete 100% of the critical steps (steps in **BOLD**) and a majority of the non-critical steps (steps in *italics*) in both **Part I** and **Part II**.
P-Pass / F-Fail
1st Attempt 2nd attempt

Skill Demonstration: Part I
Product Control Functions
   1. Confirmed order with IC to perform product control.
   2. Determined where product control functions will be performed as set-out in the IAP. (Ensure: the candidate determined wind direction, terrain slope, and where the hot zone is located)
   3. Planned response within capabilities of personal protective equipment (PPE).
   4. Performed product control function.
   5. Implemented planned response consistent with site safety plan while working in PPE.
   6. Operated as a member of a team.
   7. Kept IC updated as to status of product control.
   8. Advised IC when product control has been completed.

Skill Demonstration: Part II
Absorption
   9. Gathered absorbent material necessary to perform absorption.
   10. Performed absorption as set-out in the IAP.
   11. Performed absorption as a defensive action from a safe location. (Performed from an uphill position, with wind at their back and outside the hot zone)

Candidate’s Name: ___________________________ Station: P____ F____ P____ F____
Evaluator’s Signature: ___________________________
SKILL SHEET #6B: PRODUCT CONTROL: *ADSORPTION*

Portland Community College
Operations Level Responder

**Competency:** NFPA 472-2013, Sections 6.6.4.1 & 6.6.4.1(3)(b).

*SKILL SHEETS*:10-1 (pp. 496).

**Required Candidate Equipment:** PPE ensemble, respiratory protection.

**Required Instructor Equipment:** Adsorbent material and Simulated incident.

**Read To Student:**
At this station, you will demonstrate how to perform product control activities. You will operate as a member of a team. There are two **Parts** for this skill event. You are required to demonstrate both **Parts**.

In **Part I**, you are required to demonstrate basic product control functions. You are required to determine where the assigned confinement/spill control action will be performed, including determining wind direction, terrain, and hot zone (you are required to operate outside the hot zone). You must verbalize your thoughts regarding these items. **NOTE:** *Skill Demonstration Item #4*, in the list below, will be determined by completing **Part II** of this skill sheet.

In **Part II**, you are required to demonstrate the confinement/spill control action, I assign, using defensive tactics. There is more than one way to accomplish a confinement/spill control action. You will not be assessed on the specific way you perform the confinement/spill control action, but rather on your ability to accomplish the specific assigned confinement/action using defensive tactics to control the product. You are required to demonstrate the confinement/spill control action while wearing the PPE you donned in **Part II** of Skill Sheet #3. **NOTE:** The confinement/spill control action assigned must be performed within the limits of an “operations level responder” and your training.

This is not a timed event, but you should complete the assignment as expeditiously as possible. To pass this station, you must successfully complete 100% of the critical steps (steps in **BOLD**) and a majority of the non-critical steps (steps in *italics*) in both **Part I** and **Part II**.
P-Pass / F-Fail

1st Attempt  2nd attempt

Skill Demonstration: Part I
Product Control Functions

1. Confirmed order with IC to perform product control.

2. Determined where product control functions will be performed as set-out in the IAP. (Ensure: the candidate determined wind direction, terrain slope, and where the hot zone is located)

3. Planned response within capabilities of personal protective equipment (PPE).

4. Performed product control function.

5. Implemented planned response consistent with site safety plan while working in PPE.

6. Operated as a member of a team.

7. Kept IC updated as to status of product control.

8. Advised IC when product control has been completed.

Skill Demonstration: Part II
Adsorption

9. Gathered adsorbent material necessary to perform adsorption.

10. Performed adsorption as set-out in the IAP.

11. Performed absorption as a defensive confinement action from a safe location. (Performed from an uphill position, with wind at their back and outside the hot zone)

Candidate’s Name: ________________________________ Station: P ___ F ___

Evaluator’s Signature: ____________________________

1st Attempt  2nd attempt
SKILL SHEET #6C: PRODUCT CONTROL: DAMMING

Portland Community College
Operations Level Responder

Competency: NFPA 472-2013, Sections 6.6.4.1 & 6.6.4.1(3)(c).

SKILL SHEETS: 10-2 (pp. 497).

Required Candidate Equipment: PPE ensemble, respiratory protection.

Required Instructor Equipment: Dirt, Overflow Tube, Shovels, Simulated Incident.

Read To Student:
At this station, you will demonstrate how to perform product control activities. You will operate as a member of a team. There are two Parts for this skill event. You are required to demonstrate both Parts.

In Part I, you are required to demonstrate basic product control functions. You are required to determine where the assigned confinement/spill control action will be performed, including determining wind direction, terrain, and hot zone (you are required to operate outside the hot zone). You must verbalize your thoughts regarding these items. NOTE: Skill Demonstration Item #4, in the list below, will be determined by completing Part II of this skill sheet.

In Part II, you are required to demonstrate the confinement/spill control action, I assign, using defensive tactics. There is more than one way to accomplish a confinement/spill control action. You will not be assessed on the specific way you perform the confinement/spill control action, but rather on your ability to accomplish the specific assigned confinement/action using defensive tactics to control the product. You are required to demonstrate the confinement/spill control action while wearing the PPE you donned in Part II of Skill Sheet #3. NOTE: The confinement/spill control action assigned must be performed within the limits of an “operations level responder” and your training.

This is not a timed event, but you should complete the assignment as expeditiously as possible. To pass this station, you must successfully complete 100% of the critical steps (steps in BOLD) and a majority of the non-critical steps (steps in italics) in both Part I and Part II.
P-Pass / F-Fail

1st Attempt  2nd attempt

Skill Demonstration: Part I

1. Confirmed order with IC to perform product control.
2. Determined where product control functions will be performed as set-out in the IAP. (Ensure: the candidate determined wind direction, terrain slope, and where the hot zone is located)
3. Planned response within capabilities of personal protective equipment (PPE).
4. Performed product control function.
5. Implemented planned response consistent with site safety plan while working in PPE.
6. Operated as a member of a team.
7. Kept IC updated as to status of product control.
8. Advised IC when product control has been completed.

Skill Demonstration: Part II

9. Gathered equipment necessary to perform damming.
10. Performed damming as set-out in the IAP.
11. Performed damming as a defensive confinement action from a safe location. (Performed from an uphill position, with wind at their back and outside the hot zone)

Candidate’s Name: ____________________________ Station: P   F   P   F

Evaluator’s Signature: ____________________________

1st Attempt  2nd attempt
SKILL SHEET #6D: PRODUCT CONTROL: DIKING

Portland Community College
Operations Level Responder

Competency: NFPA 472-2013, Sections 6.6.4.1 & 6.6.4.1(3)(d).

SKILL SHEETS: 10-3 (pp. 498).

Required Candidate Equipment: PPE ensemble, respiratory protection.

Required Instructor Equipment: Dirt, Shovels, Simulated Incident.

Read To Student:
At this station, you will demonstrate how to perform product control activities. You will operate as a member of a team. There are two Parts for this skill event. You are required to demonstrate both Parts.

In Part I, you are required to demonstrate basic product control functions. You are required to determine where the assigned confinement/spill control action will be performed, including determining wind direction, terrain, and hot zone (you are required to operate outside the hot zone). You must verbalize your thoughts regarding these items. NOTE: Skill Demonstration Item #4, in the list below, will be determined by completing Part II of this skill sheet.

In Part II, you are required to demonstrate the confinement/spill control action, I assign, using defensive tactics. There is more than one way to accomplish a confinement/spill control action. You will not be assessed on the specific way you perform the confinement/spill control action, but rather on your ability to accomplish the specific assigned confinement/action using defensive tactics to control the product. You are required to demonstrate the confinement/spill control action while wearing the PPE you donned in Part II of Skill Sheet #3. NOTE: The confinement/spill control action assigned must be performed within the limits of an “operations level responder” and your training.

This is not a timed event, but you should complete the assignment as expeditiously as possible. To pass this station, you must successfully complete 100% of the critical steps (steps in BOLD) and a majority of the non-critical steps (steps in italics) in both Part I and Part II.
P-Pass / F-Fail

1st Attempt  2nd attempt  

Skill Demonstration: Part I  
Product Control Functions  

1. Confirmed order with IC to perform product control.  
2. Determined where product control functions will be performed as set-out in the IAP. (Ensure: the candidate determined wind direction, terrain slope, and where the hot zone is located)  
3. Planned response within capabilities of personal protective equipment (PPE).  
4. Performed product control function.  
5. Implemented planned response consistent with site safety plan while working in PPE.  
6. Operated as a member of a team.  
7. Kept IC updated as to status of product control.  
8. Advised IC when product control has been completed.  

Skill Demonstration: Part II  
Diking  

9. Gathered equipment necessary to perform diking.  
10. Performed diking as set-out in the IAP.  
11. Performed diking as a defensive confinement action from a safe location. (Performed from an uphill position, with wind at their back and outside the hot zone)
SKILL SHEET #6E: PRODUCT CONTROL: DILUTION

Portland Community College
Operations Level Responder

Competency: NFPA 472-2013, Sections 6.6.4.1 & 6.6.4.1(3)(e).

SKILL SHEETS: 10-8 (pp. 503).

Required Candidate Equipment: PPE ensemble, respiratory protection.

Required Instructor Equipment: Pumper, Handline, Water Source, Simulated Incident.

Read To Student:
At this station, you will demonstrate how to perform product control activities. You will operate as a member of a team. There are two Parts for this skill event. You are required to demonstrate both Parts.

In Part I, you are required to demonstrate basic product control functions. You are required to determine where the assigned confinement/spill control action will be performed, including determining wind direction, terrain, and hot zone (you are required to operate outside the hot zone). You must verbalize your thoughts regarding these items. NOTE: Skill Demonstration Item #4, in the list below, will be determined by completing Part II of this skill sheet.

In Part II, you are required to demonstrate the confinement/spill control action, I assign, using defensive tactics. There is more than one way to accomplish a confinement/spill control action. You will not be assessed on the specific way you perform the confinement/spill control action, but rather on your ability to accomplish the specific assigned confinement/action using defensive tactics to control the product. You are required to demonstrate the confinement/spill control action while wearing the PPE you donned in Part II of Skill Sheet #3. NOTE: The confinement/spill control action assigned must be performed within the limits of an “operations level responder” and your training.

This is not a timed event, but you should complete the assignment as expeditiously as possible. To pass this station, you must successfully complete 100% of the critical steps (steps in BOLD) and a majority of the non-critical steps (steps in italics) in both Part I and Part II.
P-Pass / F-Fail

1st Attempt  2nd Attempt

Skill Demonstration: Part I
Product Control Functions

1. Confirmed order with IC to perform product control.

2. Determined where product control functions will be performed as set-out in the IAP. (Ensure: the candidate determined wind direction, terrain slope, and where the hot zone is located)

3. Planned response within capabilities of personal protective equipment (PPE).

4. Performed product control function.

5. Implemented planned response consistent with site safety plan while working in PPE.

6. Operated as a member of a team.

7. Kept IC updated as to status of product control.

8. Advised IC when product control has been completed.

Skill Demonstration: Part II
Dilution

9. Set-up for the application of water to perform dilution.

10. Ensured the hazardous material was water-soluble and in a quantity small enough to dilute.

11. Performed dilution as set-out in the IAP.

12. Performed dilution as a defensive action from a safe location. (Performed from an uphill position, with wind at their back and outside the hot zone)

Candidate’s Name: ____________________________ Station: P  F  P  F  

Evaluator’s Signature: ____________________________
SKILL SHEET #6F: PRODUCT CONTROL: *DIVERSION*

Portland Community College
Operations Level Responder

**Competency:** NFPA 472-2013, Sections 6.6.4.1 & 6.6.4.1(3)(f).

**Reference:**
  SKILL SHEETS: 10-4 (pp. 499).

**Required Candidate Equipment:** PPE ensemble, respiratory protection.

**Required Instructor Equipment:** Dirt, Shovels, Simulated Incident.

**Read To Student:**
At this station, you will demonstrate how to perform product control activities. You will operate as a member of a team. There are two Parts for this skill event. You are required to demonstrate both Parts.

In **Part I**, you are required to demonstrate basic product control functions. You are required to determine where the assigned confinement/spill control action will be performed, including determining wind direction, terrain, and hot zone (you are required to operate outside the hot zone). You must verbalize your thoughts regarding these items. **NOTE:** Skill Demonstration Item #4, in the list below, will be determined by completing **Part II** of this skill sheet.

In **Part II**, you are required to demonstrate the confinement/spill control action, I assign, using defensive tactics. There is more than one way to accomplish a confinement/spill control action. You will not be assessed on the specific way you perform the confinement/spill control action, but rather on your ability to accomplish the specific assigned confinement/action using defensive tactics to control the product. You are required to demonstrate the confinement/spill control action while wearing the PPE you donned in **Part II** of **Skill Sheet #3**. **NOTE:** The confinement/spill control action assigned must be performed within the limits of an “operations level responder” and your training.

This is not a timed event, but you should complete the assignment as expeditiously as possible. To pass this station, you must successfully complete 100% of the critical steps (steps in **BOLD**) and a majority of the non-critical steps (steps in *italics*) in both **Part I** and **Part II**.
P-Pass / F-Fail

1st Attempt  2nd attempt

Skill Demonstration: Part I
Product Control Functions

1. Confirmed order with IC to perform product control.

2. Determined where product control functions will be performed as set-out in the IAP. (Ensure: the candidate determined wind direction, terrain slope, and where the hot zone is located)

3. Planned response within capabilities of personal protective equipment (PPE).

4. Performed product control function.

5. Implemented planned response consistent with site safety plan while working in PPE.

6. Operated as a member of a team.

7. Kept IC updated as to status of product control.

8. Advised IC when product control has been completed.

Skill Demonstration: Part II
Diversion

9. Gathered equipment necessary to perform diversion.

10. Performed diversion as set-out in the IAP.

11. Performed diversion as a defensive confinement action from a safe location. (Performed from an uphill position, with wind at their back and outside the hot zone)

Candidate’s Name: _____________________________ Station: P ___ F ___

Evaluator’s Signature: _____________________________

1st Attempt  2nd attempt
SKILL SHEET #6G: PRODUCT CONTROL: RETENTION

Portland Community College
Operations Level Responder

Competency: NFPA 472-2013, Sections 6.6.4.1 & 6.6.4.1(3)(g).

SKILL SHEETS: 10-5 (pp. 500).

Required Candidate Equipment: PPE ensemble, respiratory protection.

Required Instructor Equipment: Ladders, Salvage Covers, Dirt, Shovels, Simulated Incident.

Read To Student:
At this station, you will demonstrate how to perform product control activities. You will operate as a member of a team. There are two Parts for this skill event. You are required to demonstrate both Parts.

In Part I, you are required to demonstrate basic product control functions. You are required to determine where the assigned confinement/spill control action will be performed, including determining wind direction, terrain, and hot zone (you are required to operate outside the hot zone). You must verbalize your thoughts regarding these items. NOTE: Skill Demonstration Item #4, in the list below, will be determined by completing Part II of this skill sheet.

In Part II, you are required to demonstrate the confinement/spill control action, I assign, using defensive tactics. There is more than one way to accomplish a confinement/spill control action. You will not be assessed on the specific way you perform the confinement/spill control action, but rather on your ability to accomplish the specific assigned confinement/action using defensive tactics to control the product. You are required to demonstrate the confinement/spill control action while wearing the PPE you donned in Part II of Skill Sheet #3. NOTE: The confinement/spill control action assigned must be performed within the limits of an “operations level responder” and your training.

This is not a timed event, but you should complete the assignment as expeditiously as possible. To pass this station, you must successfully complete 100% of the critical steps (steps in BOLD) and a majority of the non-critical steps (steps in italics) in both Part I and Part II.
Skill Demonstration: Part I
Product Control Functions

1. Confirmed order with IC to perform product control.

2. Determined where product control functions will be performed as set-out in the IAP. (Ensure: the candidate determined wind direction, terrain slope, and where the hot zone is located)

3. Planned response within capabilities of personal protective equipment (PPE).

4. Performed product control function.

5. Implemented planned response consistent with site safety plan while working in PPE.

6. Operated as a member of a team.

7. Kept IC updated as to status of product control.

8. Advised IC when product control has been completed.

Skill Demonstration: Part II
Retention

9. Gathered equipment necessary to perform retention.

10. Performed retention as set-out in the IAP.

11. Performed retention as a defensive confinement action from a safe location. (Performed from an uphill position, with wind at their back and outside the hot zone)
SKILL SHEET #6H: PRODUCT CONTROL: REMOTE VALVE SHUTOFF

Portland Community College
Operations Level Responder

Competency: NFPA 472-2013, Sections 6.6.4.1 & 6.6.4.1(3)(h).

SKILL SHEETS: 10-9 (pp. 504-505).

Required Candidate Equipment: PPE ensemble, respiratory protection.


Read To Student:
At this station, you will demonstrate how to perform product control activities. You will operate as a member of a team. There are two Parts for this skill event. You are required to demonstrate both Parts.

In Part I, you are required to demonstrate basic product control functions. You are required to determine where the assigned confinement/spill control action will be performed, including determining wind direction, terrain, and hot zone (you are required to operate outside the hot zone). You must verbalize your thoughts regarding these items. NOTE: Skill Demonstration Item #4, in the list below, will be determined by completing Part II of this skill sheet.

In Part II, you are required to demonstrate the confinement/spill control action, I assign, using defensive tactics. There is more than one way to accomplish a confinement/spill control action. You will not be assessed on the specific way you perform the confinement/spill control action, but rather on your ability to accomplish the specific assigned confinement/action using defensive tactics to control the product. You are required to demonstrate the confinement/spill control action while wearing the PPE you donned in Part II of Skill Sheet #3. NOTE: The confinement/spill control action assigned must be performed within the limits of an “operations level responder” and your training.

This is not a timed event, but you should complete the assignment as expeditiously as possible. To pass this station, you must successfully complete 100% of the critical steps (steps in BOLD) and a majority of the non-critical steps (steps in italics) in both Part I and Part II.
P-Pass / F-Fail

1st Attempt  2nd attempt

Skill Demonstration: Part I
Product Control Functions

1. Confirmed order with IC to perform product control.

2. Determined where product control functions will be performed as set-out in the IAP. (Ensure: the candidate determined wind direction, terrain slope, and where the hot zone is located)

3. Planned response within capabilities of personal protective equipment (PPE).

4. Performed product control function.

5. Implemented planned response consistent with site safety plan while working in PPE.

6. Operated as a member of a team.

7. Kept IC updated as to status of product control.

8. Advised IC when product control has been completed.

Skill Demonstration: Part II
Remote Valve Shutoff

9. Determined location of remote shut-off.

10. Determined if remote shut-off could be operated safely based on PPE available and training.

11. Performed remote shut-off as set-out in the IAP.

12. Performed remote shut-off as a defensive action from a safe location. (Performed from an uphill position, with wind at their back and outside the hot zone)

Candidate’s Name: _______________________________ Station: P ____ F ____ P ____ F ____

Evaluator’s Signature: ________________________________
SKILL SHEET #6I: PRODUCT CONTROL: VAPOR DISPERSION

Portland Community College
Operations Level Responder

Competency: NFPA 472-2013, Sections 6.6.4.1 & 6.6.4.1(3)(i).

SKILL SHEETS: 10-7 (pp. 502).

Required Candidate Equipment: PPE ensemble, respiratory protection.


Read To Student:
At this station, you will demonstrate how to perform product control activities. You will operate as a member of a team. There are two Parts for this skill event. You are required to demonstrate both Parts.

In Part I, you are required to demonstrate basic product control functions. You are required to determine where the assigned confinement/spill control action will be performed, including determining wind direction, terrain, and hot zone (you are required to operate outside the hot zone). You must verbalize your thoughts regarding these items. NOTE: Skill Demonstration Item #4, in the list below, will be determined by completing Part II of this skill sheet.

In Part II, you are required to demonstrate the confinement/spill control action, I assign, using defensive tactics. There is more than one way to accomplish a confinement/spill control action. You will not be assessed on the specific way you perform the confinement/spill control action, but rather on your ability to accomplish the specific assigned confinement/action using defensive tactics to control the product. You are required to demonstrate the confinement/spill control action while wearing the PPE you donned in Part II of Skill Sheet #3. NOTE: The confinement/spill control action assigned must be performed within the limits of an “operations level responder” and your training.

This is not a timed event, but you should complete the assignment as expeditiously as possible. To pass this station, you must successfully complete 100% of the critical steps (steps in BOLD) and a majority of the non-critical steps (steps in italics) in both Part I and Part II.
P-Pass / F-Fail

1st Attempt  2nd attempt

Skill Demonstration: Part I
Product Control Functions

1. Confirmed order with IC to perform product control.

2. Determined where product control functions will be performed as set-out in the IAP. (Ensure: the candidate determined wind direction, terrain slope, and where the hot zone is located)

3. Planned response within capabilities of personal protective equipment (PPE).

4. Performed product control function.

5. Implemented planned response consistent with site safety plan while working in PPE.

6. Operated as a member of a team.

7. Kept IC updated as to status of product control.

8. Advised IC when product control has been completed.

Skill Demonstration: Part II
Vapor Dispersion

9. Gathered equipment and/or set-up for the application of a hose stream to perform vapor dispersion. (NOTE – if PPV is chosen, candidate must determine if equipment is compatible with the atmosphere, e.g., is blower intrinsically safe?)

10. Determined wind direction and safe location from which to perform vapor dispersion.

11. Determined if vapor dispersion could cause additional problems downwind.

12. Performed vapor dispersion as set-out in the IAP.

13. Performed vapor dispersion as a defensive action and in a safe manner. (Performed from an uphill position, with wind at their back and outside the hot zone)

Candidate’s Name: __________________________ Station: P ______ F ______ P ______ F ______

Evaluator’s Signature: __________________________
SKILL SHEET #6J: PRODUCT CONTROL: VAPOR SUPPRESSION

Portland Community College
Operations Level Responder

Competency: NFPA 472-2013, Sections 6.6.4.1 & 6.6.4.1(3)(j).

SKILL SHEETS: 10-6 (pp. 501).

Required Candidate Equipment: PPE ensemble, respiratory protection.


Read To Student:
At this station, you will demonstrate how to perform product control activities. You will operate as a member of a team. There are two Parts for this skill event. You are required to demonstrate both Parts.

In Part I, you are required to demonstrate basic product control functions. You are required to determine where the assigned confinement/spill control action will be performed, including determining wind direction, terrain, and hot zone (you are required to operate outside the hot zone). You must verbalize your thoughts regarding these items. NOTE: Skill Demonstration Item #4, in the list below, will be determined by completing Part II of this skill sheet.

In Part II, you are required to demonstrate the confinement/spill control action, I assign, using defensive tactics. There is more than one way to accomplish a confinement/spill control action. You will not be assessed on the specific way you perform the confinement/spill control action, but rather on your ability to accomplish the specific assigned confinement/action using defensive tactics to control the product. You are required to demonstrate the confinement/spill control action while wearing the PPE you donned in Part II of Skill Sheet #3. NOTE: The confinement/spill control action assigned must be performed within the limits of an “operations level responder” and your training.

This is not a timed event, but you should complete the assignment as expeditiously as possible. To pass this station, you must successfully complete 100% of the critical steps (steps in BOLD) and a majority of the non-critical steps (steps in italics) in both Part I and Part II.
P-Pass / F-Fail

1st Attempt  2nd attempt

Skill Demonstration: Part I
Product Control Functions

1. Confirmed order with IC to perform product control.

2. Determined where product control functions will be performed as set-out in the IAP. (Ensure: the candidate determined wind direction, terrain slope, and where the hot zone is located)

3. Planned response within capabilities of personal protective equipment (PPE).

4. Performed product control function.

5. Implemented planned response consistent with site safety plan while working in PPE.

6. Operated as a member of a team.

7. Kept IC updated as to status of product control.

8. Advised IC when product control has been completed.

Skill Demonstration: Part II
Vapor Suppression

9. Set-up for the application of foam to perform vapor suppression.

10. Selected foam concentrate compatible with the material.

11. Assembled foam stream components.

12. Determined wind direction and safe location from which to perform vapor suppression.

13. Performed vapor suppression as set-out in the IAP.

14. Used appropriate technique for application of foam.

15. Maintained vapor suppressive foam blanket.

16. Performed vapor suppression as a defensive action and in a safe manner.

17. Team retreated while facing hazard, reaching a safe haven.

Candidate’s Name: _______________________________ Station: P ___ F ___ P ___ F ___

Evaluator’s Signature: _______________________________
SKILL SHEET #7: TECHNICAL DECONTAMINATION

Portland Community College
Operations Level Responder

Competency: NFPA 472-2013, Section 6.2.4.1(4).

SKILL SHEETS: 9-2 (pp.467–468), 9-3 (pp. 469).
pp. 371, 374-382

Required Candidate Equipment: PPE ensemble, respiratory protection.

Required Instructor Equipment: Responder Needing Decontamination, Water, Hose Line, Scrub Brush, Buckets, Soap & Water or 0.5% Hypochlorite Solution, and Technical Decontamination Corridor Set-Up Equipment.

Read To Candidate:
At this station, you will demonstrate the procedures for responders undergoing the technical decontamination (decon) process. You will operate as a member of a team. You will not be required to set up the technical decon corridor. NOTE: You will operate under the supervision of the Decon Group supervisor. I will serve as the Decon Group Supervisor.

During this test, you will perform technical decon on a responder as he/she moves through the technical decon corridor from the hot zone to the cold zone. After performing technical decon, you must assist the responder in removing his/her personal protective equipment (PPE) and respiratory protection without becoming exposed yourself, causing the responder to be exposed, or causing cross-contamination. After completing the removal of PPE and respiratory protection, you will direct the responder to medical personnel for evaluation.

To pass this station, you must successfully complete 100% of the critical steps (steps in BOLD) and a majority of the non-critical steps (steps in italics).

P-Pass / F-Fail

1st Attempt 2nd attempt

1. Confirmed order to perform technical decontamination.
2. Donned appropriate PPE and respiratory protection.
3. Directed responder from hot zone into technical decon corridor.
4. Operated in the technical decon corridor from an up-hill and up-wind position.
5. **Performed technical decontamination process as directed.** (Recommended Evaluation: Assist responder in removing PPE and respiratory protection without cross-contamination; assist in removing contaminate from responder’s PPE; OR set up contaminate removal portion of technical decon corridor).
6. Directed responder to medical personnel.
7. Reported completion of assignment to Decon Group Supervisor.

Candidate’s Name: ___________________________ Station: P __ F __
Evaluator’s Signature: ___________________________

P ____ F ____ 1st Attempt

P ____ F ____ 2nd attempt