

# **HAZARDOUS MATERIALS SKILLS MANUAL**

## **CHAPTER SIX**

**Effective June 1, 2010**



**Texas Commission on Fire Protection**  
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**TEXAS COMMISSION ON FIRE PROTECTION  
HAZARDOUS MATERIALS TECHNICIAN**

Performance Standards

**Analyzing the Incident**

Containers Identification

**Skill #1**

**PERFORMANCE STANDARD**

**Section 604**

**NFPA 472 7.2.1**

**TECHNICIAN**

**OBJECTIVE**

Given examples of various containers for hazardous materials/WMD, the hazardous materials technician shall identify each container by name and specification and identify the typical contents by name and hazard class.

Given examples of the following railroad cars, the hazardous materials technician shall identify the container by name and specification and identify the typical contents by name and hazard class:

- (1) Cryogenic liquid tank cars
- (2) Nonpressure tank cars
- (3) Pneumatically unloaded hopper cars
- (4) Pressure tank cars

Given examples of the following intermodal tanks, the hazardous materials technician shall identify the container by name and specification and identify the typical contents by name and hazard class:

- (1) Nonpressure intermodal tanks
  - (a) IM-101 portable tanks (IMO Type 1 internationally)
  - (b) IM-102 portable tanks (IMO Type 2 internationally)
- (2) Pressure intermodal tank (DOT Specification 51; IMO Type 5 internationally)
- (3) Specialized intermodal tanks
  - (a) Cryogenic intermodal tanks (DOT Specification 51; IMO Type 7 internationally)
  - (b) Tube modules

Given examples of the following cargo tanks, the hazardous materials technician shall identify the container by name and specification and identify the typical contents by name and hazard class:

- (1) Compressed gas tube trailers
- (2) Corrosive liquid tanks
- (3) Cryogenic liquid tanks
- (4) Dry bulk cargo tanks
- (5) High-pressure tanks
- (6) Low-pressure chemical tanks

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# TEXAS COMMISSION ON FIRE PROTECTION HAZARDOUS MATERIALS TECHNICIAN

## Performance Standards

### (7) Nonpressure liquid tanks

Given examples of the following facility storage tanks, the hazardous materials technician shall identify the container by name and identify the typical contents by name and hazard class:

- (1) Cryogenic liquid tank
- (2) Nonpressure tank
- (3) Pressure tank

Given examples of the following nonbulk packaging, the hazardous materials technician shall identify the package by name and identify the typical contents by name and hazard class:

- (1) Bags
- (2) Carboys
- (3) Cylinders
- (4) Drums

Given examples of the following radioactive materials packages, the hazardous materials technician shall identify the container/package by name and identify the typical contents by name:

- (1) Excepted
- (2) Industrial
- (3) Type A
- (4) Type B
- (5) Type C

Given examples of three facility and three transportation containers, the hazardous materials technician shall identify the approximate capacity of each container.

Using the markings on the container, the hazardous materials technician shall identify the capacity (by weight or volume) of the following examples of transportation vehicles:

- (1) Cargo tanks
- (2) Tank cars
- (3) Tank containers

Using the markings on the container and other available resources, the hazardous materials technician shall identify the capacity (by weight or volume) of each of the following facility containers:

- (1) Cryogenic liquid tank
- (2) Nonpressure tank (general service or low-pressure tank)
- (3) Pressure tank

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
Performance Standards

**INSTRUCTIONS - procedures for achieving the objective**

Given a worksheet or audio/visual presentation you shall identify the name of, type, capacity, and typical contents of each container represented. You will begin on my instructions to start. The skill will end when you state or indicate to me that you have completed all the identified steps. Do you understand these instructions?

**EXAMINERS NOTE**

The hazardous materials technician trainee will not be allowed to review the performance steps at the time of testing.

**PREPARATION & EQUIPMENT**

A worksheet or audio/visual presentation (i.e. PowerPoint Presentation) or an instructor prepared worksheet.

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**TEXAS COMMISSION ON FIRE PROTECTION  
HAZARDOUS MATERIALS TECHNICIAN**

Performance Standards

**Analyzing the Incident**

Containers Identification

**Skill #1**

Candidate: \_\_\_\_\_ Date: \_\_\_\_\_

Academy: \_\_\_\_\_ Test Site: \_\_\_\_\_

<b>HAZARDOUS MATERIALS TECHNICIAN</b>	<u>TEST</u>		<u>RETEST</u>	
<b>Analyzing the Incident -Skill Number #1</b>	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
<p>Given examples of various containers for hazardous materials/WMD, the hazardous materials technician shall identify each container by name and specification and identify the typical contents by name and hazard class.</p> <p>Given examples of the following railroad cars, the hazardous materials technician shall identify the container by name and specification and identify the typical contents by name and hazard class:</p> <ul style="list-style-type: none"> <li>(1) Cryogenic liquid tank cars</li> <li>(2) Nonpressure tank cars</li> <li>(3) Pneumatically unloaded hopper cars</li> <li>(4) Pressure tank cars</li> </ul> <p>Given examples of the following intermodal tanks, the hazardous materials technician shall identify the container by name and specification and identify the typical contents by name and hazard class:</p> <ul style="list-style-type: none"> <li>(1) Nonpressure intermodal tanks               <ul style="list-style-type: none"> <li>(a) IM-101 portable tanks (IMO Type 1 internationally)</li> <li>(b) IM-102 portable tanks (IMO Type 2 internationally)</li> </ul> </li> <li>(2) Pressure intermodal tank (DOT Specification 51; IMO Type 5 internationally)</li> <li>(3) Specialized intermodal tanks               <ul style="list-style-type: none"> <li>(a) Cryogenic intermodal tanks (DOT Specification 51; IMO Type 7 internationally)</li> <li>(b) Tube modules</li> </ul> </li> </ul> <p>Given examples of the following cargo tanks, the hazardous</p>				

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**TEXAS COMMISSION ON FIRE PROTECTION  
HAZARDOUS MATERIALS TECHNICIAN**

Performance Standards

<p>materials technician shall identify the container by name and specification and identify the typical contents by name and hazard class:</p> <ul style="list-style-type: none"> <li>(1) Compressed gas tube trailers</li> <li>(2) Corrosive liquid tanks</li> <li>(3) Cryogenic liquid tanks</li> <li>(4) Dry bulk cargo tanks</li> <li>(5) High-pressure tanks</li> <li>(6) Low-pressure chemical tanks</li> <li>(7) Nonpressure liquid tanks</li> </ul> <p>Given examples of the following facility storage tanks, the hazardous materials technician shall identify the container by name and identify the typical contents by name and hazard class:</p> <ul style="list-style-type: none"> <li>(1) Cryogenic liquid tank</li> <li>(2) Nonpressure tank</li> <li>(3) Pressure tank</li> </ul> <p>Given examples of the following nonbulk packaging, the hazardous materials technician shall identify the package by name and identify the typical contents by name and hazard class:</p> <ul style="list-style-type: none"> <li>(1) Bags</li> <li>(2) Carboys</li> <li>(3) Cylinders</li> <li>(4) Drums</li> </ul> <p>Given examples of the following radioactive materials packages, the hazardous materials technician shall identify the container/package by name and identify the typical contents by name:</p> <ul style="list-style-type: none"> <li>(1) Excepted</li> <li>(2) Industrial</li> <li>(3) Type A</li> <li>(4) Type B</li> <li>(5) Type C</li> </ul> <p>Given examples of three facility and three transportation containers, the hazardous materials technician shall identify the approximate capacity of each container.</p> <p>Using the markings on the container, the hazardous</p>				
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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
 Performance Standards

<p>materials technician shall identify the capacity (by weight or volume) of the following examples of transportation vehicles:</p> <ul style="list-style-type: none"> <li>(1) Cargo tanks</li> <li>(2) Tank cars</li> <li>(3) Tank containers</li> </ul> <p>Using the markings on the container and other available resources, the hazardous materials technician shall identify the capacity (by weight or volume) of each of the following facility containers:</p> <ul style="list-style-type: none"> <li>(1) Cryogenic liquid tank</li> <li>(2) Nonpressure tank (general service or low-pressure tank)</li> <li>(3) Pressure tank</li> </ul> <p style="text-align: right;">(7.2.1)</p>				
<p><b>The candidate shall:</b></p>	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
<p><b><u>Railroad Cars</u></b></p> <ul style="list-style-type: none"> <li>1. Identify the railcar examples provided</li> <li>2. Identify the approximate capacity of the railcar examples</li> <li>3. Identify a material(s) and hazard class(s) commonly transported in the railcar examples</li> </ul>				
<p><b><u>Intermodal</u></b></p> <ul style="list-style-type: none"> <li>1. Identify the intermodal container examples provided</li> <li>2. Identify the approximate capacity of the container examples</li> <li>3. Identify a material(s) and hazard class(s) commonly transported in the container examples</li> </ul>				
<p><b><u>Cargo Tank</u></b></p> <ul style="list-style-type: none"> <li>1. Identify the Highway Cargo Tanks provided</li> <li>2. Identify the approximate capacity of the cargo tank examples</li> <li>3. Identify a material(s) and hazard class(s) commonly transported in the cargo tank examples</li> </ul>				
<p><b><u>Fixed Facility</u></b></p> <ul style="list-style-type: none"> <li>1. Identify the fixed facility storage tanks provided</li> <li>2. Identify a material(s) and hazard class(s) commonly stored in the storage tank examples</li> </ul>				
<p><b><u>Non-Bulk Packaging</u></b></p> <ul style="list-style-type: none"> <li>1. Identify the nonbulk container packaging provided</li> <li>2. Identify the approximate capacity of the nonbulk container packaging</li> <li>3. Identify a material(s) and hazard class(s) commonly</li> </ul>				

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# Technician Container Identification Worksheet

RAILCAR TANK				
	Container Name	Container Capacity	Common Materials	Common Hazard Classes
1				
2				
3				
4				
5				
INTERMODAL TANK				
	Container Name/Spec.	Container Capacity	Common Materials	Common Hazard Classes
1				
2				
3				
4				
5				
HIGHWAY CARGO TANK				
	Container Name/Spec.	Container Capacity	Common Materials	Common Hazard Classes
1				
2				
3				
4				
5				
6				
7				
NON-BULK CONTAINER PACKAGING				
	Container Name	Container Capacity	Common Materials	Common Hazard Classes
1				
2				
3				
4				
5				
FIXED FACILITY STORAGE TANK				
	Container Name	Typical Contents		
1				
2				
3				
RADIOACTIVE MATERIAL PACKAGING				
	Container Name	Typical Contents		
1				
2				
3				
4				
5				

**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
Performance Standards

**Analyzing the Incident**  
Sampling and Monitoring/Surveying Equipment  
**Skill #2**

**PERFORMANCE STANDARD**

**Section 604**

**NFPA 472 7.2.1.3.5, 7.2.1.5**

**TECHNICIAN**

**OBJECTIVE**

Given three hazardous materials/WMD, one of which is a solid, one a liquid, and one a gas, and using the following monitoring equipment, test strips, and reagents, the hazardous materials technician shall select from the following equipment and demonstrate the correct techniques to identify the hazards (Corrosivity, flammability, oxidation potential, oxygen deficiency, radioactivity, toxicity, and pathogenicity):

- (1) Carbon monoxide meter
- (2) Colorimetric tubes
- (3) Combustible gas indicator
- (4) Oxygen meter
- (5) Passive dosimeters
- (6) pH indicators and pH meters
- (7) Photoionization and flame ionization detectors
- (8) Radiation detection instruments
- (9) Reagents
- (10) Test strips
- (11) WMD detectors (chemical and biological)
- (12) Other equipment provided by the AHJ

The hazardous materials technician shall demonstrate methods for collecting samples of the following:

- (1) Gas
- (2) Liquid
- (3) Solid

**INSTRUCTIONS - procedures for achieving the objective**

Given a solid, a liquid, and a gas, you will demonstrate the appropriate method for collecting a sample for evaluation. You will select the appropriate type of monitoring equipment to classify or identify the material by using the instruments, reagents and test strips as provided by the AHJ. *(Example: if a sample is a liquid and has a pH of 2, it would be an acid. If it also had a LEL of 12%, it would also be a flammable liquid).* You will begin on my instruction to start. The skill will end when you state or indicate to me that you have completed all the identified steps. Do you understand these instructions?

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
Performance Standards

**EXAMINERS NOTE:**

The hazardous materials technician trainee will not be allowed to review the performance steps at the time of testing.

**PREPARATION & EQUIPMENT**

1. Carbon monoxide meter\*
2. Oxygen meter\*
3. Combustible gas indicator\*
4. Gas specific meters (AHJ)
5. Photoionization detector
6. Colorimetric tubes and pump
7. pH paper or electronic pH meter
8. Radiation detection instruments
9. Reagents (AHJ)
10. Test strips (AHJ)
11. Other monitoring detection equipment as provided by AHJ
12. Samples of hazardous materials (liquids, gases, and solids)
13. Sampling equipment (i.e. pipettes, spatulas, jars, vials, etc.)

\*These can be single gas monitors or multi-gas monitors

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
 Performance Standards

**Analyzing the Incident**  
 Sampling and Monitoring/Surveying Equipment  
**Skill #2**

Candidate: \_\_\_\_\_ Date: \_\_\_\_\_

Academy: \_\_\_\_\_ Test Site: \_\_\_\_\_

HAZARDOUS MATERIALS TECHNICIAN	<u>TEST</u>		<u>RETEST</u>	
<b>Analyzing the Incident - Skill Number #2</b>	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
Given three hazardous materials/WMD, one of which is a solid, one a liquid, and one a gas, and using the following monitoring equipment, test strips, and reagents, the hazardous materials technician shall select from the following equipment and demonstrate the correct techniques to identify the hazards (Corrosivity, flammability, oxidation potential, oxygen deficiency, radioactivity, toxicity, and pathogenicity): <ul style="list-style-type: none"> <li>(1) Carbon monoxide meter</li> <li>(2) Colorimetric tubes</li> <li>(3) Combustible gas indicator</li> <li>(4) Oxygen meter</li> <li>(5) Passive dosimeters</li> <li>(6) pH indicators and pH meters</li> <li>(7) Photoionization and flame ionization detectors</li> <li>(8) Radiation detection instruments</li> <li>(9) Reagents</li> <li>(10) Test strips</li> <li>(11) WMD detectors (chemical and biological)</li> <li>(12) Other equipment provided by the AHJ</li> </ul> <p style="text-align: right;">(7.2.1.3.5, 7.2.1.5)</p>				
<b>The candidate shall perform:</b>	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
<b>SAMPLE #1 (Liquid)</b>				
1. Appropriately collect sample of material.				
2. Choose the correct instrument or instruments to survey/test the sample.				
List instrument(s) chosen: _____				

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
 Performance Standards

<p>3. Correctly classifies and/or identifies and quantifies the sample.</p> <p>Classification/identification of sample:_____</p> <p>Quantified results:_____</p>				
<b>SAMPLE #2 (Solid)</b>				
<p>1. Appropriately collect sample of material.</p>				
<p>2. Choose the correct instrument or instruments to survey/test the sample.</p> <p>List instrument(s) chosen:_____</p>				
<p>3. Correctly classifies and/or identifies and quantifies the sample.</p> <p>Classification/identification of sample:_____</p> <p>Quantified results:_____</p>				
<b>SAMPLE #3 (Gas)</b>				
<p>1. Appropriately collect sample of material.</p>				
<p>2. Choose the correct instrument or instruments to survey/test the sample.</p> <p>List instrument(s) chosen:_____</p>				
<p>3. Correctly classifies and/or identifies and quantifies the sample.</p> <p>Classification/identification of sample:_____</p> <p>Quantified results:_____</p>				

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
Performance Standards

**Evaluator/Candidate Comments:**

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**All steps of the skill objective are mandatory and must be scored as “Satisfactory” to pass the skill.**

_____	_____	Overall Skill Sheet Score
Certifying Examiner	Date	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
_____	_____	Overall Skill Sheet Re-Test Score
Re-Test Certifying Examiner	Date	Pass <input type="checkbox"/> Fail <input type="checkbox"/>

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**TEXAS COMMISSION ON FIRE PROTECTION  
HAZARDOUS MATERIALS TECHNICIAN**

Performance Standards

**Analyzing the Incident**

Monitoring/Surveying/Detection Equipment Maintenance and Use

**Skill #3**

**PERFORMANCE STANDARD**

**Section 604**

**NFPA 472 7.2.1.3.6**

**TECHNICIAN**

**OBJECTIVE**

Given monitoring equipment, test strips, and reagents provided by the AHJ, the hazardous materials technician shall demonstrate the field maintenance and testing procedures for those items.

**INSTRUCTIONS - Procedures for achieving the objective**

Given various monitoring, surveying and detection instruments/equipment, you will demonstrate the procedures for calibrating the instruments or verifying their calibration. You will also demonstrate how to use each instrument or type of test equipment provided. You will begin on my instructions to start. The skill will end when you state or indicate to me that you have completed all the identified steps. Do you understand these instructions?

**EXAMINER NOTE:**

The hazardous materials technician trainee will not be allowed to review the performance steps at the time of testing.

**PREPARATION & EQUIPMENT**

1. Carbon monoxide monitor\*
2. Combustible gas indicator\*
3. Oxygen monitor\*
4. Gas specific monitors
5. Photoionization detector
6. Colorimetric tubes
7. Radiation survey equipment
8. Radiation dosimeters
9. pH papers/pH meters
10. Test strips
11. Reagents
12. Equipment to calibrate or verify calibration
13. Other instruments/equipment provided by AHJ

**\*These may be single gas or multi-gas monitors**

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**TEXAS COMMISSION ON FIRE PROTECTION  
HAZARDOUS MATERIALS TECHNICIAN**

Performance Standards

**Analyzing the Incident**

Monitoring/Surveying/Detection Equipment Maintenance and Use

**Skill #3**

Candidate: \_\_\_\_\_ Date: \_\_\_\_\_

Academy: \_\_\_\_\_ Test Site: \_\_\_\_\_

<b>HAZARDOUS MATERIALS TECHNICIAN</b>				
<b>Analyzing the Incident - Skill Number #3</b>	<u>TEST</u>		<u>RETEST</u>	
	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
Given monitoring equipment, test strips, and reagents provided by the AHJ, the hazardous materials technician shall demonstrate the field maintenance and testing procedures for those items.  <div style="text-align: right;">(7.2.1.3.6)</div>				
<b>The candidate shall perform:</b>	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
1. Oxygen monitor a) In accordance with the manufacturer's instructions, calibrates monitor or verifies calibration b) Demonstrate proper use of the device				
2. Combustible Gas Indicator a) In accordance with the manufacturer's instructions, calibrates monitor or verifies calibration b) Demonstrate proper use of the device				
3. Carbon monoxide monitor a) In accordance with the manufacturer's instructions, calibrates monitor or verifies calibration b) Demonstrate proper use of the device				
4. Gas specific monitor (i.e. hydrogen sulfide detector) a) In accordance with the manufacturer's instructions, calibrates monitor or verifies calibration b) Demonstrate proper use of the device				
5. Radiation survey instrument (i.e. Ludlum 2241-2 or CDV700 or CDV715) a) In accordance with the manufacturer's instructions, calibrates monitor or verifies calibration				

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**TEXAS COMMISSION ON FIRE PROTECTION  
HAZARDOUS MATERIALS TECHNICIAN**

Performance Standards

b) Demonstrate proper use of the device				
6. Radiation dosimeter a) In accordance with the manufacturer's instructions, calibrates monitor or verifies calibration b) Demonstrate proper use of the device				
7. pH paper and/or pH meter a) In accordance with the manufacturer's instructions, calibrates monitor or verifies calibration (for pH meter only) b) Demonstrate proper use of the device				
8. Colorimetric tubes/devices (i.e. Drager tubes) a) Use in accordance with the manufacturer's instructions b) Demonstrate proper use of the device				
9. Test strips or reagents a) Use in accordance with the manufacturer's instructions b) Demonstrate proper use of the device				
10. Photoionization detector a) In accordance with the manufacturer's instructions, calibrates monitor or verifies calibration b) Demonstrate proper use of the device				
11. Other monitoring, detection or survey equipment provided by the AHJ a) In accordance with the manufacturer's instructions, calibrates monitor or verifies calibration b) Demonstrate proper use of the device				

**Evaluator/Candidate Comments:**

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
Performance Standards

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**All steps of the skill objective are mandatory and must be scored as “Satisfactory” to pass the skill.**

_____	_____	Overall Skill Sheet Score
Certifying Examiner	Date	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
_____	_____	Overall Skill Sheet Re-Test Score
Re-Test Certifying Examiner	Date	Pass <input type="checkbox"/> Fail <input type="checkbox"/>

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**TEXAS COMMISSION ON FIRE PROTECTION  
HAZARDOUS MATERIALS TECHNICIAN**

Performance Standards

**Analyzing the Incident**

Collecting and Interpreting Hazard and Response Information

**Skill #4**

**PERFORMANCE STANDARD**

**Section 604**

**NFPA 472 7.2.2, 7.2.2.4**

**TECHNICIAN**

**OBJECTIVE**

Given access to printed and technical resources, computer databases, and monitoring equipment, the hazardous materials technician shall collect and interpret hazard and response information not available from the current edition of the DOT *Emergency Response Guidebook* or an MSDS.

Given a hazardous materials/WMD scenario and the associated reference materials, the hazardous materials technician shall identify the signs and symptoms of exposure to each material and the target organ effects of exposure to that material.

**INSTRUCTIONS - procedures for achieving the objective**

Given a hazardous materials incident/WMD scenario, you will collect and interpret hazard and response information utilizing provided printed and technical reference resources, computer databases and monitoring results. You shall identify the signs and symptoms of exposure for each material identified and the target organ effects of an exposure to that material. Given the data provided and using the information you have interpreted, you will develop an incident site safety plan and complete a product data sheet. You will begin on my instructions to start. The skill will end when you state or indicate to me that you have completed all the identified steps. Do you understand these instructions?

**EXAMINERS NOTE**

The hazardous materials technician trainee will not be allowed to review the performance steps at the time of testing.

**PREPARATION & EQUIPMENT**

1. Various hazardous materials/WMD incident scenarios
2. Various hazardous materials printed reference text (see reference list and equipment list).
3. Various hazardous materials electronic databases as provided by AHJ (i.e. WISER and/or CAMEO)
4. Chemical data worksheet
5. Site safety plan worksheet (i.e. ICS form 208HM)

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
 Performance Standards

**Analyzing the Incident**

Collecting and Interpreting Hazard and Response Information

**Skill #4**

Candidate: \_\_\_\_\_ Date: \_\_\_\_\_

Academy: \_\_\_\_\_ Test Site: \_\_\_\_\_

HAZARDOUS MATERIALS TECHNICIAN	<u>TEST</u>		<u>RETEST</u>	
Analyzing the Incident- Skill Number #4	S	U	S	U
Given five hazardous materials/WMD scenarios and the associated reference materials, the hazardous materials technician shall identify the signs and symptoms of exposure to each material and the target organ effects of exposure to that material.  <p style="text-align: right;">(7.2.2, 7.2.2.4)</p>				
<b>The candidate shall:</b>	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
a) Uses a minimum of three reference sources				
b) Identifies signs and symptoms of exposure				
c) Identifies target organs affected				
d) Complete a chemical data worksheet for each chemical identified				
e) Using all data collected, complete a site safety plan*				

**\*At a minimum, the site safety plan should include the following information:**

1. Maximum exposure limits
2. Identifies hazards or conditions present
3. Level of PPE needed
4. Hazardous substance safe handling procedures
5. Identifies the need for a site map
6. Use of the "buddy system"
7. Backup personnel
8. Medical support
9. Safety officer
10. Decontamination procedures
11. Hazard monitoring
12. Control zones

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# Chemical Data Worksheet

Chemical Name:			Date	
Synonym/Trade Names:			DOT UN #	
Physical Description:			CAS #	
Molecular Formula:		Molecular Weight:		Structure:
<b>Physical, Chemical and Toxicological Properties</b>				
	Source #1	Source #2	Source #3	Source #4
Reference Source				
Page #				
<b>Physical Properties</b>				
Physical State/Form				
Molecular Weight				
Boiling Point				
Melting Point				
Freezing Point				
Specific Gravity				
Solubility				
Flash Point				
Ignition Temp.				
Flammable Limits (UEL/LEL)				
Ionization Potential				
Vapor Density				
Vapor Pressure				
Other				
<b>Chemical Properties</b>				
Reactivities/Incompatibilities				
Corrosively (pH)				
Fire/Spill/Release Rec.				
Other				
<b>Toxicological Properties</b>				
TLV-TWA, -C, -STEL				
PEL or REL				
IDLH				
LD50, LC50				
Radioactivity				
Carcinogen/Mutagen/Teratogen				
Routes of Entry				
Target Organs/ Signs & Symptoms				
First Aid				
Toxic Products of Combustion				
PPE/CPC Recommendations				
Respiratory Protection				

**TEXAS COMMISSION ON FIRE PROTECTION  
HAZARDOUS MATERIALS TECHNICIAN**

Performance Standards

**Analyzing the Incident**

Identifying Areas of Concern for PPA

**Skill #5**

**PERFORMANCE STANDARD**

**Section 604**

**NFPA 472 7.2.5.4**

**TECHNICIAN**

**OBJECTIVE**

Given examples involving a hazardous materials/WMD release and the corresponding instrument monitoring readings, the hazardous materials technician shall determine the applicable public protective response options and the areas to be protected.

**INSTRUCTIONS - procedures for achieving the objective**

Given direct monitoring survey data and a map, you shall plot the coordinates of the readings on the map. After plotting the coordinates you will identify the area of greatest concern for implementing public protective actions. You shall also clearly determine the control zones (hot, warm, and cold) based on the information obtained if possible. The skill will end when you state or indicate to me that you have completed all the identified steps. You will begin on my instruction to start. Do you understand these instructions?

**EXAMINERS NOTE:**

The hazardous materials technician trainee will not be allowed to review the performance steps at the time of testing.

**PREPARATION & EQUIPMENT**

Hazardous materials/WMD incident scenario/response monitoring data

Grid map of area surrounding incident site

MSDS

Various hazardous materials printed reference text (see reference list and equipment list)

Various hazardous materials electronic databases as provided by AHJ (i.e. WISER and/or CAMEO)

Pencils, ruler, protractor

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
 Performance Standards

**Analyzing the Incident**  
 Identifying Areas of Concern for PPA  
**Skill #5**

Candidate: \_\_\_\_\_ Date: \_\_\_\_\_

Academy: \_\_\_\_\_ Test Site: \_\_\_\_\_

<b>HAZARDOUS MATERIALS TECHNICIAN</b>	<b><u>TEST</u></b>		<b><u>RETEST</u></b>	
<b>Analyzing the Incident - Skill Number #5</b>	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
Given three examples involving a hazardous materials/WMD release and the corresponding instrument monitoring readings, the hazardous materials technician shall determine the applicable public protective response options and the areas to be protected.  <p style="text-align: right;">(7.2.5.4)</p>				
<b>The candidate shall:</b>	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
a) Properly plot instrumentation readings on a map based on the provided data				
b) Identify the area of concern for implementation of public protective actions				
c) If applicable, plot control zones for emergency response activities based on the data provided to include the: <ul style="list-style-type: none"> <li>• Hot Zone</li> <li>• Warm Zone</li> <li>• Cold Zone</li> </ul>				

**Evaluator/Candidate Comments:**

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
Performance Standards

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**All steps of the skill objective are mandatory and must be scored as “Satisfactory” to pass the skill.**

_____	_____	Overall Skill Sheet Score
Certifying Examiner	Date	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
_____	_____	Overall Skill Sheet Re-Test Score
Re-Test Certifying Examiner	Date	Pass <input type="checkbox"/> Fail <input type="checkbox"/>

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**TEXAS COMMISSION ON FIRE PROTECTION  
HAZARDOUS MATERIALS TECHNICIAN**

Performance Standards

**Planning the Response**  
Identifying Response Objectives  
**Skill #6**

**PERFORMANCE STANDARD**

**Section 604**

**NFPA 472 7.3.1, 7.3.2**

**TECHNICIAN**

**OBJECTIVE**

Given scenarios involving hazardous materials/WMD incidents, the hazardous materials technician shall describe the response objectives for each problem.

Given an analysis of a hazardous materials/WMD incident, the hazardous materials technician shall be able to describe the steps for determining response objectives (defensive, offensive, and nonintervention).

Given scenarios involving hazardous materials/WMD incidents, the hazardous materials technician shall identify the possible response options (defensive, offensive, and nonintervention) by response objective for each problem.

The hazardous materials technician shall be able to identify the possible response options to accomplish a given response objective.

**INSTRUCTIONS - Procedures for achieving the objective**

Given at least two (2) simulated hazardous materials incidents, one a facility incident and one a transportation incident, the technician trainee shall:

- 1) Describe the response objectives for each incident,
- 2) Describe the steps for determining response objectives when given an analysis of an incident,
- 3) Identify the possible response options by response objective for each problem (defensive, offensive and nonintervention), including safety considerations.
- 4) Identify possible response options to accomplish a given response objective

You will begin on my instructions to start. When you indicate completion of your analysis and response planning, I will ask you a series of questions. The skill will end when you state or indicate to me that you have completed your verbal response to the questions asked. Do you understand these instructions?

**EXAMINER NOTE**

The hazardous materials technician trainee will not be allowed to review the performance steps at the time of testing. When the examinee indicates completion of

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
Performance Standards

the preparation tasks, ask the evaluation questions given on page two of this document. In the appropriate column, record your evaluation of the examinee's responses as either satisfactory (S) or unsatisfactory (U).

**PREPARATION & EQUIPMENT**

1. Hazardous materials/WMD incident scenarios (at least one scenario each must involve a facility incident or a transportation-related incident).
2. One "Response Objective Analysis Form" for each simulated incident.

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**TEXAS COMMISSION ON FIRE PROTECTION  
HAZARDOUS MATERIALS TECHNICIAN**

Performance Standards

**Planning the Response**  
Identifying Response Objectives  
**Skill #6**

Candidate: \_\_\_\_\_ Date: \_\_\_\_\_

Academy: \_\_\_\_\_ Test Site: \_\_\_\_\_

<b>HAZARDOUS MATERIALS TECHNICIAN</b>				
	<b>TEST</b>		<b>RETEST</b>	
	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
<b>Planning the Response - Skill Number #6</b>				
<p>Given scenarios involving hazardous materials/WMD incidents, the hazardous materials technician shall describe the response objectives for each problem.</p> <p>Given an analysis of a hazardous materials/WMD incident, the hazardous materials technician shall be able to describe the steps for determining response objectives (defensive, offensive, and nonintervention).</p> <p>Given scenarios involving hazardous materials/WMD incidents, the hazardous materials technician shall identify the possible response options (defensive, offensive, and nonintervention) by response objective for each problem.</p> <p>The hazardous materials technician shall be able to identify the possible response options to accomplish a given response objective.</p> <p style="text-align: right;">(7.3.1, 7.3.2)</p>				
<b>The trainee shall describe for the transportation incident:</b>				
a) Would you describe for me the response objective(s) for this incident?				
b) Would you describe the steps taken to determine the response objectives?				
c) Will this be a defensive, offensive, or nonintervention response?				
d) What possible action items have you identified to accomplish each response objective, including safety considerations?				
e) What possible response options will be required to accomplish your given response objectives?				

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**TEXAS COMMISSION ON FIRE PROTECTION  
HAZARDOUS MATERIALS TECHNICIAN  
Performance Standards**

<b>The trainee shall describe for the facility incident:</b>	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
a) Would you describe for me the response objective(s) for this incident?				
b) Would you describe the steps taken to determine the response objectives?				
c) Will this be a defensive, offensive, or nonintervention response?				
d) What possible action items have you identified to accomplish each response objective, including safety considerations?				
e) What possible response options will be required to accomplish your given response objectives?				

**Evaluator/Candidate Comments:**

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**All steps of the skill objective are mandatory and must be scored as “Satisfactory” to pass the skill.**

		Overall Skill Sheet Score
Certifying Examiner	Date	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
		Overall Skill Sheet Re-Test Score
Re-Test Certifying Examiner	Date	Pass <input type="checkbox"/> Fail <input type="checkbox"/>

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**TEXAS COMMISSION ON FIRE PROTECTION  
HAZARDOUS MATERIALS TECHNICIAN**

Performance Standards

**HazMat Technician #6**

**Response Objective Analysis Form  
(Examinee Worksheet)**

This worksheet is provided to the **EXAMINEE** to assist in identifying the stage of the incident and appropriate response objectives. Record the possible action options to accomplish each identified response objective.

TYPE OF INCIDENT:      FACILITY      TRANSPORTATION

CONTAINMENT SYSTEM ID: \_\_\_\_\_ MATERIAL: \_\_\_\_\_

**INCIDENT STAGE (EVENT SEQUENCE)**

STRESS	BREACH	RELEASE	ENGULF	CONTACT	HARM
--------	--------	---------	--------	---------	------

**RESPONSE OBJECTIVES**

CHANGE APPLIED STRESSES	CHANGE BREACH SIZE	CHANGE QUANTITY RELEASE	CHANGE DANGER ZONE SIZE	CHANGE EXPOSURES CONTACTED	CHANGE SEVERITY OF HARM
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**RESPONSE OPTIONS AND SAFETY CONSIDERATIONS**

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**TEXAS COMMISSION ON FIRE PROTECTION  
HAZARDOUS MATERIALS TECHNICIAN**

Performance Standards

**HazMat Technician #6**

**Response Objective Analysis Form  
(Examinee Worksheet)**

This worksheet is provided to the **EXAMINEE** to assist in identifying the stage of the incident and appropriate response objectives. Record the possible action options to accomplish each identified response objective.

TYPE OF INCIDENT:      FACILITY                      TRANSPORTATION

CONTAINMENT SYSTEM ID: \_\_\_\_\_ MATERIAL: \_\_\_\_\_

**INCIDENT STAGE (EVENT SEQUENCE)**

STRESS	BREACH	RELEASE	ENGULF	CONTACT	HARM
--------	--------	---------	--------	---------	------

**RESPONSE OBJECTIVES**

CHANGE APPLIED STRESSES	CHANGE BREACH SIZE	CHANGE QUANTITY RELEASE	CHANGE DANGER ZONE SIZE	CHANGE EXPOSURES CONTACTED	CHANGE SEVERITY OF HARM
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**RESPONSE OPTIONS AND SAFETY CONSIDERATIONS**

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**TEXAS COMMISSION ON FIRE PROTECTION  
HAZARDOUS MATERIALS TECHNICIAN**

Performance Standards

**Planning the Response**  
Selecting Chemical Protective Clothing  
**Skill #7**

**PERFORMANCE STANDARD**

**Section 604**

**NFPA 472 7.3.3, 7.3.3.4.6**

**TECHNICIAN**

**OBJECTIVE**

Given scenarios of hazardous materials/WMD incidents with known and unknown hazardous materials/WMD, the hazardous materials technician shall determine the personal protective equipment for the response options specified in the incident action plan in each situation.

Given three examples of various hazardous materials, the hazardous materials technician shall determine the protective clothing construction materials for a given action option using chemical compatibility charts.

**INSTRUCTIONS - procedures for achieving the objective**

You will be provided the name of three hazardous materials, a selection of Chemical Protective Clothing (CPC), chemical compatibility charts and/or CPC Selection Guides, hazardous materials reference texts, and a CPC worksheet. Using the materials provided, determine the CPC compatibility with the hazardous materials, and identify the breakthrough time (in minutes). You will begin on my instructions to start. The skill will end when you state or indicate to me that you have completed all the identified steps. Do you understand these instructions?

**EXAMINERS NOTE**

The hazardous materials technician trainee will not be allowed to review the performance steps at the time of testing.

**PREPARATION & EQUIPMENT**

1. A list of Hazardous Materials/WMD Agents
2. A list of CPC Material
3. CPC Chemical compatibility charts
4. CPC Selection Guide(s)
5. Hazardous Materials reference texts
6. CPC Worksheets

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
 Performance Standards

**Planning the Response**  
 Selecting Chemical Protective Clothing  
**Skill #7**

Candidate: \_\_\_\_\_ Date: \_\_\_\_\_

Academy: \_\_\_\_\_ Test Site: \_\_\_\_\_

<b>HAZARDOUS MATERIALS TECHNICIAN</b>				
	<u>TEST</u>		<u>RETEST</u>	
	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
<b>Planning the Response - Skill Number #7</b>				
Given scenarios of hazardous materials/WMD incidents with known and unknown hazardous materials/WMD, the hazardous materials technician shall determine the personal protective equipment for the response options specified in the incident action plan. <p style="text-align: right;">(7.3.3)</p>				
Given three examples of various hazardous materials, the hazardous materials technician shall determine the protective clothing construction materials for a given action option using chemical compatibility charts. <p style="text-align: right;">(7.3.3.4.6)</p>				
<b>The candidate shall:</b>	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
1. Chemical #1 Name _____ a. Identifies breakthrough time (in minutes) b. Determined best CPC compatibility				
2. Chemical #2 Name _____ a. Identifies breakthrough time (in minutes) b. Determined best CPC compatibility				
3. Chemical #3 Name _____ a. Identifies breakthrough time (in minutes) b. Determined best CPC compatibility				

**Evaluator/Candidate Comments:**

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
Performance Standards

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**All steps of the skill objective are mandatory and must be scored as “Satisfactory” to pass the skill.**

_____	_____	Overall Skill Sheet Score
Certifying Examiner	Date	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
_____	_____	Overall Skill Sheet Re-Test Score
Re-Test Certifying Examiner	Date	Pass <input type="checkbox"/> Fail <input type="checkbox"/>

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
 Performance Standards

**Chemical Protective Clothing  
 Selection Worksheet**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Hazardous Material/WMD	CPC Materials/Garment	CPC Breakthrough Time in Min.	CPC Selected for Use (Yes or No)
#1: _____	1.	Min.	
	2.	Min.	
	3.	Min.	
#2: _____	1.	Min.	
	2.	Min.	
	3.	Min.	
#3: _____	1.	Min.	
	2.	Min.	
	3.	Min.	

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**TEXAS COMMISSION ON FIRE PROTECTION  
HAZARDOUS MATERIALS TECHNICIAN**

Performance Standards

**Planning the Response**

Incident Action Plan

**Skill #8**

**PERFORMANCE STANDARD**

**Section 604**

**NFPA 472 7.3.5, 7.3.5.2, 7.3.5.2.1, 7.3.5.2.2**

**TECHNICIAN**

**OBJECTIVE**

Given scenarios involving hazardous materials/WMD incidents, the hazardous materials technician shall develop a plan of action, including site safety and a control plan, that is consistent with the emergency response plan and standard operating procedures and within the capability of available personnel, personal protective equipment, and control equipment for that incident.

Given a scenario involving a hazardous materials/WMD incident, the hazardous materials technician shall develop the site safety and control plan that must be included as part of the incident action plan.

The hazardous materials technician shall list and describe the safety considerations to be included.

The hazardous materials technician shall identify the points that should be made in a safety briefing prior to working at the scene.

**INSTRUCTIONS - Procedures for achieving the objective**

Given a simulated hazardous materials/WMD incident or scenario involving a facility or transportation setting, the technician shall develop a complete incident action plan (IAP) including a site safety plan. The plan shall be consistent with the local emergency response plan and the organization's standard operating procedures. You will begin on my instruction to start. Do you understand these instructions?

**EXAMINER NOTE**

The hazardous materials technician trainee will not be allowed to review the performance steps at the time of testing.

**PREPARATION & EQUIPMENT**

Simulated hazardous materials/WMD incident or scenario involving a facility or transportation setting  
ICS forms or ICS worksheet

**Note:** Standard ICS forms would include:

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
Performance Standards

- ICS 201 Incident Briefing Form
- ICS 202 Incident Objectives Worksheet
- ICS 203 Organization Assignment List
- ICS 204 Division Assignment List
- ICS 205 Communications Plan
- ICS 206 Medical Plan
- ICS 208HM Site Safety and Control Plan

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
 Performance Standards

**Planning the Response**  
 Incident Action Plan  
**Skill #8**

Candidate: \_\_\_\_\_ Date: \_\_\_\_\_

Academy: \_\_\_\_\_ Test Site: \_\_\_\_\_

<b>HAZARDOUS MATERIALS TECHNICIAN</b>	<b>TEST</b>		<b>RETEST</b>	
<b>Planning the Response -Skill Number #8</b>	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
Given scenarios involving hazardous materials/WMD incidents, the hazardous materials technician shall develop a plan of action, including site safety and a control plan that is consistent with the emergency response plan and standard operating procedures and within the capability of available personnel, personal protective equipment, and control equipment for that incident. <div style="text-align: right;">(7.3.5)</div>				
Given a scenario involving a hazardous materials/WMD incident, the hazardous materials technician shall develop the site safety and control plan that must be included as part of the incident action plan. <div style="text-align: right;">(7.3.5.2)</div>				
The hazardous materials technician shall list and describe the safety considerations to be included. <div style="text-align: right;">(7.3.5.2.1)</div>				
The hazardous materials technician shall identify the points that should be made in a safety briefing prior to working at the scene. <div style="text-align: right;">(7.3.5.2.2)</div>				
<b>The trainee shall:</b>	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
a) Analyze the incident				
b) Develop a complete incident action plan				
c) Develop a site safety plan				
d) Conduct a pre-entry safety briefing				

**Evaluator/Candidate Comments:**

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
Performance Standards

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**All steps of the skill objective are mandatory and must be scored as “Satisfactory” to pass the skill.**

_____	_____	Overall Skill Sheet Score
Certifying Examiner	Date	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
_____	_____	Overall Skill Sheet Re-Test Score
Re-Test Certifying Examiner	Date	Pass <input type="checkbox"/> Fail <input type="checkbox"/>

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# Incident Command Worksheet

Date: \_\_\_\_\_  
 Incident Name: \_\_\_\_\_  
 Incident Address/Location: \_\_\_\_\_  
 Incident Command Post Location: \_\_\_\_\_  
 Staging Area Location: \_\_\_\_\_  
 Dispatch Time: \_\_\_\_\_  
 On-Scene Time: \_\_\_\_\_  
 Controlled: \_\_\_\_\_  
 Extinguishment: \_\_\_\_\_

Incident Commander(s)	
Name	Date/Time

## Scene Sketch

1st Alarm	
Unit	
Engine	
Engine	
Ladder	
EMS	

2nd Alarm	

3rd Alarm	

Mutual Aid	
Dept	Resource

Side C

Side B Side D

Side A

Assignments					
Division/Group	Division/Group	Division/Group	Division/Group	Division/Group	Division/Group

# Incident Command Worksheet

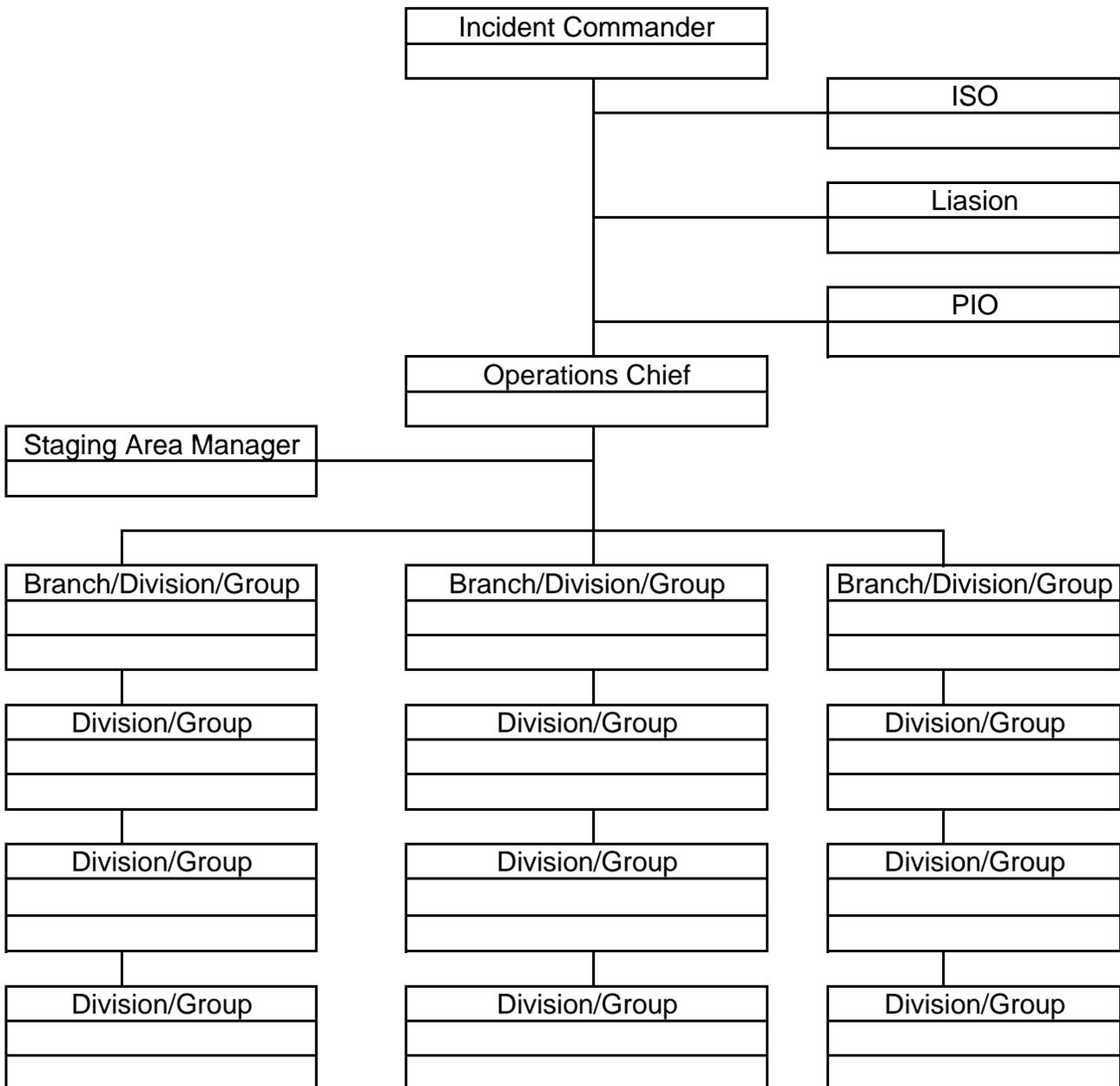
Summary of Resources							
	Resource Ordered	Resource ID	ETA	OS	# of Personnel	Location	Released
1							
2							
3							
4							
5							
6							
7							
8							
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# Incident Command Worksheet

Response Objectives
Life Safety
Incident Stabilization
Environmental Protection
Property Preservation

Tactical Priorities
Rescue
Exposures
Confinement
Extinguishment
Overhaul
Ventilation
Salvage

8 Step Hazmat Mgmt Process
Site Management & Control
Identify the Material Involved
Identify the Hazards and Risks
Select Proper PPE/CPC
Coordinate Info & Resources
Develop & Implement Objs
Decontamination
Termination Activities



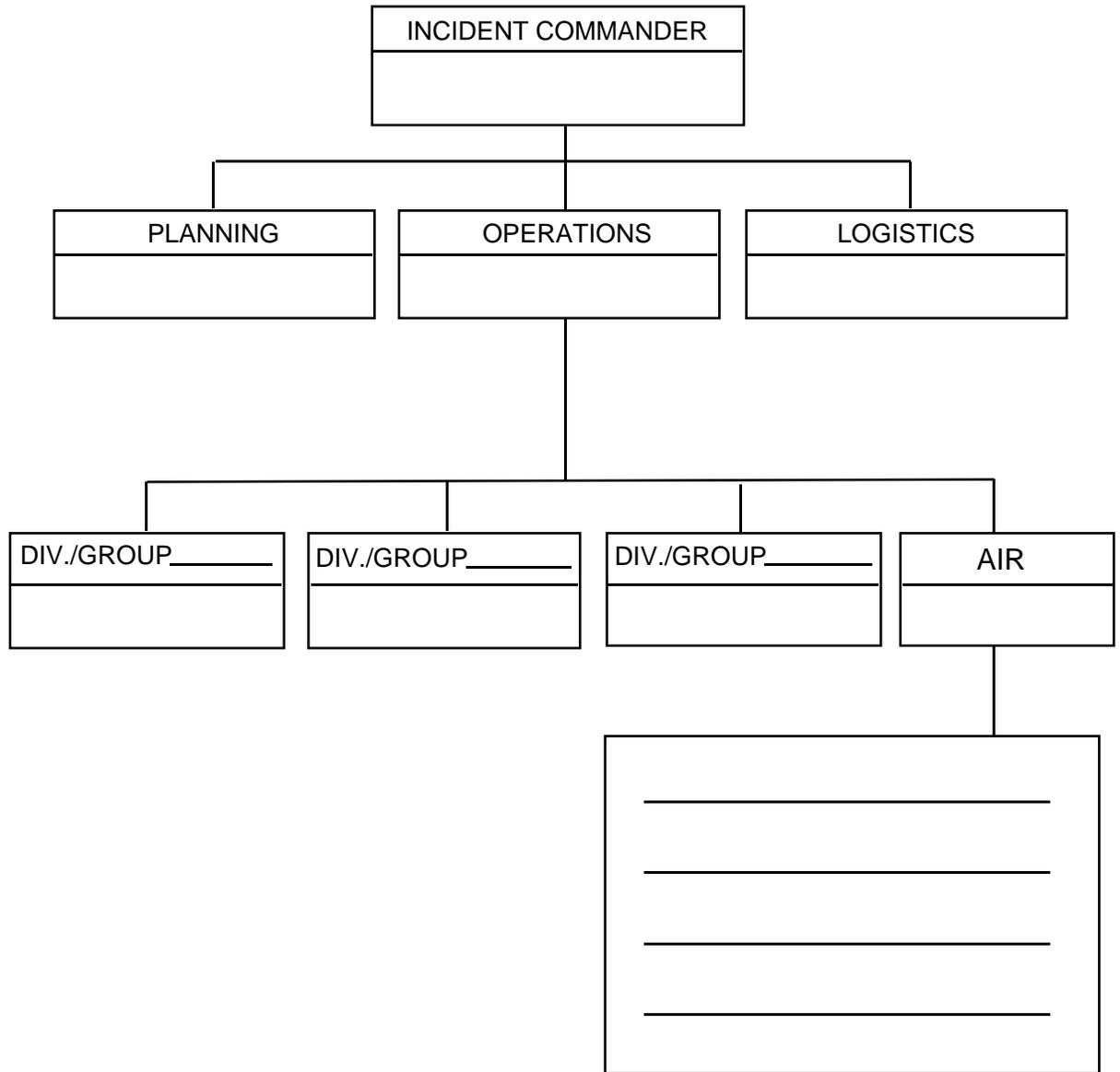
# Incident Command Worksheet

Summary of Actions		
	Time/Date	Activity
1		
2		
3		
4		
5		
6		
7		
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10		
11		
12		
13		
14		
15		
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<b>INCIDENT BRIEFING</b>	1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED
4. MAP SKETCH			
<b>ICS 201 (12/93) NFES 1325</b>	PAGE 1	5. PREPARED BY (NAME AND POSITION)	



7. CURRENT ORGANIZATION







<b>ORGANIZATION ASSIGNMENT LIST</b>		1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED																																																																					
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<b>5. INCIDENT COMMANDER AND STAFF</b>		<b>9. OPERATIONS SECTION</b>																																																																							
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PREPARED BY (RESOURCES UNIT)		<b>10. FINANCE/ADMINISTRATION SECTION</b>																																																																							

1. BRANCH	2. DIVISION/GROUP	<h1 style="margin: 0;">ASSIGNMENT LIST</h1>
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3. INCIDENT NAME	4. OPERATIONAL PERIOD DATE _____ TIME _____
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5. OPERATIONAL PERSONNEL

OPERATIONS CHIEF \_\_\_\_\_ DIVISION/GROUP SUPERVISOR \_\_\_\_\_

BRANCH DIRECTOR \_\_\_\_\_ AIR TACTICAL GROUP SUPERVISOR \_\_\_\_\_

6. RESOURCES ASSIGNED THIS PERIOD

STRIKE TEAM/TASK FORCE/ RESOURCE DESIGNATOR	EMT	LEADER	NUMBER PERSONS	TRANS. NEEDED	PICKUP PT./TIME	DROP OFF PT./TIME

7. CONTROL OPERATIONS

8. SPECIAL INSTRUCTIONS

9. DIVISION/GROUP COMMUNICATIONS SUMMARY

FUNCTION	FREQ.	SYSTEM	CHAN.	FUNCTION	FREQ.	SYSTEM	CHAN.
COMMAND	LOCAL			SUPPORT	LOCAL		
	REPEAT				REPEAT		
DIV./GROUP TACTICAL				GROUND TO AIR			

PREPARED BY (RESOURCE UNIT LEADER)	APPROVED BY (PLANNING SECT. CH.)	DATE	TIME
------------------------------------	----------------------------------	------	------

<b>INCIDENT RADIO COMMUNICATIONS PLAN</b>	1. INCIDENT NAME	2. DATE/TIME PREPARED	3. OPERATIONAL PERIOD DATE/TIME
	4. BASE RADIO CHANNEL UTILIZATION		

SYSTEM/CACHE	CHANNEL	FUNCTION	FREQUENCY/TONE	ASSIGNMENT	REMARKS

5. PREPARED BY (COMMUNICATIONS UNIT)
--------------------------------------

<b>MEDICAL PLAN</b>	1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED	4. OPERATIONAL PERIOD					
5. INCIDENT MEDICAL AID STATIONS									
MEDICAL AID STATIONS	LOCATION			PARAMEDICS					
				YES	NO				
6. TRANSPORTATION									
A. AMBULANCE SERVICES									
NAME	ADDRESS		PHONE	PARAMEDICS					
				YES	NO				
B. INCIDENT AMBULANCES									
NAME	LOCATION			PARAMEDICS					
				YES	NO				
7. HOSPITALS									
NAME	ADDRESS		TRAVEL TIME		PHONE	HELIPAD		BURN CENTER	
			AIR	GRND		YES	NO	YES	NO
8. MEDICAL EMERGENCY PROCEDURES									
206 ICS 8/78			9. PREPARED BY (MEDICAL UNIT LEADER)			10. REVIEWED BY (SAFETY OFFICER)			

<b>SITE SAFETY AND CONTROL PLAN</b> ICS 208 HM	1. Incident Name:	2. Date Prepared:	3. Operational Period: Time:									
<b>Section I. Site Information</b>												
4. Incident Location:												
<b>Section II. Organization</b>												
5. Incident Commander:	6. HM Group Supervisor:	7. Tech. Specialist - HM Reference:										
8. Safety Officer:	9. Entry Leader:	10. Site Access Control Leader:										
11. Asst. Safety Officer - HM:	12. Decontamination Leader:	13. Safe Refuge Area Mgr:										
14. Environmental Health:	15.	16.										
17. Entry Team: (Buddy System) Name: PPE Level		18. Decontamination Element: Name: PPE Level										
Entry 1		Decon 1										
Entry 2		Decon 2										
Entry 3		Decon 3										
Entry 4		Decon 4										
<b>Section III. Hazard/Risk Analysis</b>												
19. Material:	Container type	Qty.	Phys. State	pH	IDLH	F.P.	I.T.	V.P.	V.D.	S.G.	LEL	UEL
Comment:												
<b>Section IV. Hazard Monitoring</b>												
20. LEL Instrument(s):						21. O <sub>2</sub> Instrument(s):						
22. Toxicity/PPM Instrument(s):						23. Radiological Instrument(s):						
Comment:												
<b>Section V. Decontamination Procedures</b>												
24. Standard Decontamination Procedures:									YES:	NO:		
Comment:												
<b>Section VI. Site Communications</b>												
25. Command Frequency:				26. Tactical Frequency:				27. Entry Frequency:				
<b>Section VII. Medical Assistance</b>												
28. Medical Monitoring:		YES:	NO:	29. Medical Treatment and Transport In-place:				YES:	NO:			
Comment:												

**Section VIII. Site Map**

30. Site Map:



Weather  Command Post  Zones  Assembly Areas  Escape Routes  Other

**Section IX. Entry Objectives**

31. Entry Objectives:

**Section X. SOP S and Safe Work Practices**

32. Modifications to Documented SOP s or Work Practices: YES: NO:

Comment:

**Section XI. Emergency Procedures**

33. Emergency Procedures:

**Section XII. Safety Briefing**

34. Asst. Safety Officer - HM Signature: Safety Briefing Completed (Time):

35. HM Group Supervisor Signature: 36. Incident Commander Signature:

## INSTRUCTIONS FOR COMPLETING THE SITE SAFETY AND CONTROL PLAN ICS 208 HM

**A Site Safety and Control Plan must be completed by the Hazardous Materials Group Supervisor and reviewed by all within the Hazardous Materials Group prior to operations commencing within the Exclusion Zone.**

Item Number	Item Title	Instructions
1.	Incident Name/Number	Print name and/or incident number.
2.	Date and Time	Enter date and time prepared.
3.	Operational Period	Enter the time interval for which the form applies.
4.	Incident Location	Enter the address and or map coordinates of the incident.
5 - 16.	Organization	Enter names of all individuals assigned to ICS positions. (Entries 5 & 8 mandatory). Use Boxes 15 and 16 for other functions: i.e. Medical Monitoring.
17 - 18.	Entry Team/Decon Element	Enter names and level of PPE of Entry & Decon personnel. (Entries 1 - 4 mandatory buddy system and back-up.)
19.	Material	Enter names and pertinent information of all known chemical products. Enter UNK if material is not known. Include any which apply to chemical properties. (Definitions: ph = Potential for Hydrogen (Corrosivity), IDLH = Immediately Dangerous to Life and Health, F.P. = Flash Point, I.T. = Ignition Temperature, V.P. = Vapor Pressure, V.D. = Vapor Density, S.G. = Specific Gravity, LEL = Lower Explosive Limit, UEL = Upper Explosive Limit)
20 - 23.	Hazard Monitoring	List the instruments which will be used to monitor for chemical.
24.	Decontamination Procedures	Check NO if modifications are made to standard decontamination procedures and make appropriate Comments including type of solutions.
25 - 27.	Site Communications	Enter the radio frequency(ies) which apply.
28 - 29.	Medical Assistance	Enter comments if NO is checked.
30.	Site Map	Sketch or attach a site map which defines all locations and layouts of operational zones. (Check boxes are mandatory to be identified.)
31.	Entry Objectives	List all objectives to be performed by the Entry Team in the Exclusion Zone and any parameters which will alter or stop entry operations.
32 - 33.	SOP s, Safe Work Practices, and Emergency Procedures	List in Comments if any modifications to SOP s and any emergency procedures which will be affected if an emergency occurs while personnel are within the Exclusion Zone.
34 - 36.	Safety Briefing	Have the appropriate individual place their signature in the box once the Site Safety and Control Plan is reviewed. Note the time in box 34 when the safety briefing has been completed.

**TEXAS COMMISSION ON FIRE PROTECTION  
HAZARDOUS MATERIALS TECHNICIAN**

Performance Standards

**Implementing the Planned Response**

Performing Incident Command Duties

**Skill #9**

**PERFORMANCE STANDARD**

**Section 604**

**NFPA 472 7.4.1**

**TECHNICIAN**

**OBJECTIVE**

Given the emergency response plan or standard operating procedures and a scenario involving a hazardous materials/WMD incident, the hazardous materials technician shall demonstrate the duties of an assigned function in the hazardous materials branch or group within the incident command system and shall identify the role of the hazardous materials technician during hazardous materials/WMD incidents.

**INSTRUCTIONS - Procedures for achieving the objective**

Given a simulated hazardous materials/WMD incident scenario, you will be evaluated on your ability to perform the assigned duties of a hazardous materials branch/group functional assignment. Your assignment will be assigned to you by the examiner and may be one of the following positions:

- (1) Hazardous materials branch director/group supervisor
- (2) Assistant safety officer — Hazardous materials
- (3) Site access control leader
- (4) Decontamination leader
- (5) Technical specialist — Hazardous materials leader
- (6) Safe refuge area manager

You shall function as part of the incident command system and shall operate as a component of a written incident action plan. You will begin on my instruction to start. The skill will end when the hazardous materials/WMD incident scenario has terminated. Do you understand these instructions?

**EXAMINER NOTE**

The hazardous materials technician trainee will not be allowed to review the performance steps at the time of testing.

**PREPARATION & EQUIPMENT**

A scenario involving a hazardous materials/WMD incident

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
 Performance Standards

**Implementing the Planned Response**  
 Performing Incident Command Duties  
**Skill #9**

Candidate: \_\_\_\_\_ Date: \_\_\_\_\_

Academy: \_\_\_\_\_ Test Site: \_\_\_\_\_

<b>HAZARDOUS MATERIALS TECHNICIAN</b>		<b>TEST</b>		<b>RETEST</b>	
<b>Implementing the Planned Response - Skill Number #9</b>		<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
Given the emergency response plan or standard operating procedures and a scenario involving a hazardous materials/WMD incident, the hazardous materials technician shall demonstrate the duties of an assigned function in the hazardous materials branch or group within the incident command system and shall identify the role of the hazardous materials technician during hazardous materials/WMD incidents. <div style="text-align: right;">(7.4.1)</div>					
<b>The trainee shall:</b>		<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
Hazardous Materials Branch/Group Assignment: _____					
a) Effectively perform the assigned duties					
b) Operated within the incident command system					
c) Operated within the constraints of the incident action plan and site safety plan					

**Evaluator/Candidate Comments:**

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
Performance Standards

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**All steps of the skill objective are mandatory and must be scored as “Satisfactory” to pass the skill.**

_____	_____	Overall Skill Sheet Score
Certifying Examiner	Date	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
_____	_____	Overall Skill Sheet Re-Test Score
Re-Test Certifying Examiner	Date	Pass <input type="checkbox"/> Fail <input type="checkbox"/>

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**TEXAS COMMISSION ON FIRE PROTECTION  
HAZARDOUS MATERIALS TECHNICIAN**

Performance Standards

**Implementing the Planned Response**

Using Chemical Protective Clothing and Respiratory Protection

**Skill #10**

**PERFORMANCE STANDARD**

**Section 604**

**NFPA 472 7.4.2 (1), (2), (3), (4)**

**TECHNICIAN**

**OBJECTIVE**

The hazardous materials technician shall demonstrate the ability to don, work in, and doff liquid splash-protective, vapor-protective, and chemical-protective clothing and any other specialized personal protective equipment provided by the AHJ, including respiratory protection, and shall complete the following tasks:

- (1) Describe three safety procedures for personnel working in chemical-protective clothing.
- (2) Describe three emergency procedures for personnel working in chemical-protective clothing.

Emergency procedures for personnel working in vapor-protective clothing should include procedures for the following:

- (1) Loss of air supply
  - (2) Loss of suit integrity
  - (3) Loss of verbal communications
  - (4) Buddy down in hot zone
- (3) Demonstrate the ability to don, work in, and doff self-contained breathing apparatus in addition to any other respiratory protection provided by the AHJ.
  - (4) Demonstrate the ability to don, work in, and doff liquid splash-protective, vapor-protective, and chemical-protective clothing in addition to any other specialized protective equipment provided by the AHJ.

**INSTRUCTIONS - procedures for achieving the objective**

Given various forms of chemical protective clothing and respiratory protection, you will don, perform manipulative tasks and doff each ensemble. You will be provided an assistant. Additionally, you will:

- 1) Describe three safety procedures for personnel working in chemical-protective clothing.
- (2) Describe three emergency procedures for personnel working in chemical-protective clothing.

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# TEXAS COMMISSION ON FIRE PROTECTION HAZARDOUS MATERIALS TECHNICIAN

## Performance Standards

You will begin on my instructions to start. The skill will end when you state or indicate to me that you have completed all the identified steps. Do you understand these instructions?

### EXAMINERS NOTE

The hazardous materials technician trainee will not be allowed to review the performance steps at the time of testing.

### PREPARATION & EQUIPMENT

1. Complete Level A Vapor Protective Ensemble
2. Complete Level B Encapsulated Splash Protective Ensemble
3. Complete Level B Non-Encapsulated Splash Protective Ensemble
4. Complete Level C Splash Protective Ensemble
5. Tools and props to perform manipulative task with
6. Suitable place for technician to sit (i.e. small stool, folding chair with no back, or stepladder 18"-24")

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
 Performance Standards

**Implementing the Planned Response**  
 Using Chemical Protective Clothing and Respiratory Protection  
**Skill #10**

Candidate: \_\_\_\_\_ Date: \_\_\_\_\_

Academy: \_\_\_\_\_ Test Site: \_\_\_\_\_

<b>HAZARDOUS MATERIALS TECHNICIAN</b>	<b><u>TEST</u></b>		<b><u>RETEST</u></b>	
<b>Implementing the Planned Response - Skill Number #10</b>	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
The hazardous materials technician shall demonstrate the ability to don, work in, and doff liquid splash-protective, vapor-protective, and chemical-protective clothing and any other specialized personal protective equipment provided by the AHJ, including respiratory protection, and shall complete the following tasks: (1) Describe three safety procedures for personnel working in chemical-protective clothing. (2) Describe three emergency procedures for personnel working in chemical-protective clothing. (3) Demonstrate the ability to don, work in, and doff self-contained breathing apparatus in addition to any other respiratory protection provided by the AHJ. (4) Demonstrate the ability to don, work in, and doff liquid splash-protective, vapor-protective, and chemical-protective clothing in addition to any other specialized protective equipment provided by the AHJ. (7.4.2)				
<b>The candidate shall:</b>	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
Level A Vapor Protective CPC Ensemble				
a) Properly Don a Level A Vapor Protective CPC Ensemble				
b) Perform a manipulative task while wearing a Level A Vapor Protective CPC Ensemble				
c) Properly Doff a Level A Vapor Protective CPC Ensemble				
Level B Encapsulated Splash Protective CPC Ensemble				
d) Properly Don a Level B Encapsulated Splash Protective CPC Ensemble				

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**TEXAS COMMISSION ON FIRE PROTECTION  
HAZARDOUS MATERIALS TECHNICIAN**

Performance Standards

e) Perform a manipulative task while wearing a Level B Encapsulated Splash Protective CPC Ensemble				
f) Properly Doff a Level B Encapsulated Splash Protective CPC Ensemble				
Level B Non-Encapsulated Splash Protective CPC Ensemble				
g) Properly Don a Level B Non-Encapsulated Splash Protective CPC Ensemble				
h) Perform a manipulative task while wearing Level B Non-Encapsulated Splash Protective CPC Ensemble				
i) Properly Doff a Level B Non-Encapsulated Splash Protective CPC Ensemble				
Level C Splash Protective CPC Ensemble				
j) Properly Don a Level C Splash Protective CPC Ensemble				
k) Perform a manipulative task while wearing a Level C Splash Protective CPC Ensemble				
l) Properly Doff a Level C Splash Protective CPC Ensemble				
m) Describe three safety procedures for personnel working in chemical-protective clothing.				
n) Describe three emergency procedures for personnel working in chemical-protective clothing.				

**Evaluator/Candidate Comments:**

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
Performance Standards

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**All steps of the skill objective are mandatory and must be scored as “Satisfactory” to pass the skill.**

\_\_\_\_\_  
Certifying Examiner

\_\_\_\_\_  
Date

\_\_\_\_\_  
Re-Test Certifying Examiner

\_\_\_\_\_  
Date

Overall Skill Sheet Score
Pass <input type="checkbox"/> Fail <input type="checkbox"/>
Overall Skill Sheet Re-Test Score
Pass <input type="checkbox"/> Fail <input type="checkbox"/>

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**TEXAS COMMISSION ON FIRE PROTECTION  
HAZARDOUS MATERIALS TECHNICIAN**

Performance Standards

**Implementing the Planned Response**

Using Chlorine Kits

**Skill #11**

**PERFORMANCE STANDARD**

**Section 604**

**NFPA 472 7.4.3 (1), (2)**

**TECHNICIAN**

**OBJECTIVE**

Given scenarios involving hazardous materials/WMD incidents, the hazardous materials technician shall select the tools, equipment, and materials for the control of hazardous materials/WMD incidents and identify the precautions for controlling releases from the packaging/containers and shall complete the following tasks:

Given a pressure vessel, select the material or equipment and demonstrate a method(s) to contain leaks from the following locations:

- (a) Fusible plug
- (b) Fusible plug threads
- (c) Side wall of cylinder
- (d) Valve blowout
- (e) Valve gland
- (f) Valve inlet threads
- (g) Valve seat
- (h) Valve stem assembly blowout

Given the fittings on a pressure container, demonstrate the ability to perform the following:

- (a) Close valves that are open
- (b) Replace missing plugs
- (c) Tighten loose plugs

**INSTRUCTIONS - procedures for achieving the objective**

You will be provided with a Chlorine Cylinder/Container/Tank Simulator and three chlorine emergency response kits that contain the necessary tools and equipment to contain a leak. The examiner will select a type of leak and or location of the leak. Working as a team, you must choose the proper chlorine kit for the evaluation and effectively stop the leak. Your team must indicate to me when the leak has been controlled. You will be graded as a team. You will begin on my instruction to start. The skill will end when you state or indicate to me that you have completed all the identified steps. Do you understand these instructions?

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
Performance Standards

**EXAMINERS NOTE:**

The hazardous materials technician trainee will not be allowed to review the performance steps at the time of testing.

**PREPARATION & EQUIPMENT**

1. 1 - Chlorine 100 or 150 lbs. pressure vessel simulator
2. 1 - Chlorine One Ton Intermediate Bulk container pressure vessel simulator
3. 1 - Chlorine Pressure Railcar dome assembly simulator
4. 1 - Chlorine A Kit
5. 1 - Chlorine B Kit
6. 1 - Chlorine C Kit or Midland Emergency Kit
7. Level A CPC

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
 Performance Standards

**Implementing the Planned Response**  
 Using Chlorine Kits  
**Skill #11**

Candidate: \_\_\_\_\_ Date: \_\_\_\_\_

Academy: \_\_\_\_\_ Test Site: \_\_\_\_\_

<b>HAZARDOUS MATERIALS TECHNICIAN</b>	<b><u>TEST</u></b>		<b><u>RETEST</u></b>	
<b>Implementing the Planned Response - Skill Number #11</b>	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
<p>Given scenarios involving hazardous materials/WMD incidents, the hazardous materials technician shall select the tools, equipment, and materials for the control of hazardous materials/WMD incidents and identify the precautions for controlling releases from the packaging/containers and shall complete the following tasks:</p> <p>(1) Given a pressure vessel, select the material or equipment and demonstrate a method(s) to contain leaks from the following locations:</p> <ul style="list-style-type: none"> <li>(a) Fusible plug</li> <li>(b) Fusible plug threads</li> <li>(c) Side wall of cylinder</li> <li>(d) Valve blowout</li> <li>(e) Valve gland</li> <li>(f) Valve inlet threads</li> <li>(g) Valve seat</li> <li>(h) Valve stem assembly blowout</li> </ul> <p>(2) Given the fittings on a pressure container, demonstrate the ability to perform the following:</p> <ul style="list-style-type: none"> <li>(a) Close valves that are open</li> <li>(b) Replace missing plugs</li> <li>(c) Tighten loose plugs</li> </ul> <p style="text-align: right;">(7.4.3)</p>				
<b>The candidate shall:</b>	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
<ul style="list-style-type: none"> <li>a) Given a Chlorine 100 or 150 lbs. pressure vessel select a Chlorine Emergency Kit Type A and contain a leak.</li> </ul>				

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
 Performance Standards

Leak Location/Type: _____				
b) Given a Chlorine One Ton Intermediate Bulk container pressure vessel select a Chlorine Emergency Kit Type B and contain a leak.  Leak Location/Type: _____				
c) Given a Chlorine Pressure Railcar Dome assembly select a Chlorine Emergency Kit Type B and contain a leak.  Leak Location/Type: _____				
d) All steps must be performed while wearing Level A Vapor Protective Chemical Protective Clothing				

**Evaluator/Candidate Comments:**

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**All steps of the skill objective are mandatory and must be scored as “Satisfactory” to pass the skill.**

_____	_____	Overall Skill Sheet Score Pass <input type="checkbox"/> Fail <input type="checkbox"/>
_____	_____	Overall Skill Sheet Re-Test Score Pass <input type="checkbox"/> Fail <input type="checkbox"/>
Certifying Examiner	Date	
Re-Test Certifying Examiner	Date	

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
Performance Standards

**Implementing the Planned Response**  
Contain a Leak in a 55 Gallon Drum  
**Skill #12**

**PERFORMANCE STANDARD**

**Section 604**

**NFPA 472 7.4.3 (3), (4)**

**TECHNICIAN**

**OBJECTIVE**

Given scenarios involving hazardous materials/WMD incidents, the hazardous materials technician shall select the tools, equipment, and materials for the control of hazardous materials/WMD incidents and identify the precautions for controlling releases from the packaging/containers and shall complete the following tasks:

Given a 55 gal (208 L) drum and applicable tools and materials, demonstrate the ability to contain the following types of leaks:

- (a) Bung leak
- (b) Chime leak
- (c) Forklift puncture
- (d) Nail puncture

Given a 55 gal (208 L) drum and an over pack drum, demonstrate the ability to place the 55 gal (208 L) drum into the over pack drum using the following methods:

- (a) Rolling slide-in
- (b) Slide-in
- (c) Slip-over

**INSTRUCTIONS - procedures for achieving the objective**

Presented with a 55-gallon leaking drum containing a randomly selected leak involving either a nail puncture, a forklift puncture, a chime leak, or a leaking closure (bung or top) you will choose the appropriate tools and equipment, from the equipment available, and contain the leak. Additionally you will over pack the drum utilizing a randomly selected method (selected by the examiner). After donning CPC, you will begin on my instructions to start. The skill will end when you state or indicate to me that you have completed all the identified steps. Do you understand these instructions?

**EXAMINERS NOTE**

The hazardous materials technician trainee will not be allowed to review the performance steps at the time of testing.

**PREPARATION & EQUIPMENT**

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
Performance Standards

- 1.) A 55-gallon drum with either a nail puncture, a forklift puncture, a chime leak, or a leaking closure (bung).
- 2.) Bung wrench
- 3.) Drum plugging and patching kit
- 4.) Over pack drum
- 5.) CPC with respiratory protection

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
 Performance Standards

**Implementing the Planned Response**  
 Contain a Leak in a 55 Gallon Drum  
**Skill #12**

Candidate: \_\_\_\_\_ Date: \_\_\_\_\_

Academy: \_\_\_\_\_ Test Site: \_\_\_\_\_

<b>HAZARDOUS MATERIALS TECHNICIAN</b>	<b><u>TEST</u></b>		<b><u>RETEST</u></b>	
<b>Implementing the Planned Response - Skill Number #12</b>	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
Given scenarios involving hazardous materials/WMD incidents, the hazardous materials technician shall select the tools, equipment, and materials for the control of hazardous materials/WMD incidents and identify the precautions for controlling releases from the packaging/containers and shall complete the following tasks: (3) Given a 55 gal (208 L) drum and applicable tools and materials, demonstrate the ability to contain the following types of leaks: (a) Bung leak (b) Chime leak (c) Forklift puncture (d) Nail puncture (4) Given a 55 gal (208 L) drum and an over pack drum, demonstrate the ability to place the 55 gal (208 L) drum into the over pack drum using the following methods: (a) Rolling slide-in (b) Slide-in (c) Slip-over <span style="float: right;">(7.4.3)</span>				
<b>The candidate shall:</b>	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
a) Given a 55 gal (208 L) drum and applicable tools and materials, demonstrate the ability to contain one of the following types of leaks: • Bung leak • Chime leak • Forklift puncture • Nail puncture				

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
Performance Standards

**Implementing the Planned Response**  
Highway Cargo Tank Emergency Response  
**Skill #13**

**PERFORMANCE STANDARD**

**Section 604**

**NFPA 472 7.4.3 (8), (9), (10), (11)**

**TECHNICIAN**

**OBJECTIVE**

Given scenarios involving hazardous materials/WMD incidents, the hazardous materials technician shall select the tools, equipment, and materials for the control of hazardous materials/WMD incidents and identify the precautions for controlling releases from the packaging/containers and shall complete the following tasks:

Given an MC-306/DOT-406 cargo tank and a dome cover clamp, demonstrate the ability to install the clamp on the dome.

Identify the methods and precautions used to control a fire involving an MC-306/DOT-406 aluminum shell cargo tank.

Describe at least one method for containing each of the following types of leaks in MC-306/DOT-406, MC-307/DOT-407, and MC-312/DOT-412 cargo tanks:

- (a) Dome cover leak
- (b) Irregular-shaped hole
- (c) Puncture
- (d) Split or tear

Describe three product removal and transfer considerations for overturned MC-306/DOT-406, MC-307/DOT-407, MC-312/DOT-412, MC-331, and MC-338 cargo tanks.

**INSTRUCTIONS - procedures for achieving the objective**

You will be presented with a MC 306/DOT 406 cargo tank, which is leaking a product from one of the dome covers. You will gather the necessary equipment for grounding the cargo tank and controlling the leak coming from the dome cover. You will properly install the dome clamp and ground and bond the cargo tank in anticipation of product transfer operations. You will be graded as a team. You will begin on my instruction to start. The skill will end when you state or indicate to me that you have completed the above identified steps. Do you understand these instructions?

**EXAMINERS NOTE**

The hazardous materials technician trainee will not be allowed to review the performance steps at the time of testing.

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
Performance Standards

**PREPARATION & EQUIPMENT**

1. 1 - MC 306/DOT 406 Cargo tank laying on its side and water spilling out of a dome cover; or a Cargo tank dome cover training simulator and water spilling out of the dome cover
2. 1 - Dome cover clamp
3. 1 - LEL monitor
4. 1 - Complete set of grounding equipment
  - a. Ground rod
  - b. Ground clamps
  - c. Grounding cables
  - d. Non-sparking hammer

The hazardous materials technician trainee shall accomplish the skill wearing "**FULL PROTECTIVE CLOTHING FOR STRUCTURAL FIREFIGHTERS**" as required by the Texas Commission on Fire Protection to include helmet, coat, trousers, boots, and SCBA.

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
 Performance Standards

**Implementing the Planned Response**  
 Highway Cargo Tank Emergency Response  
**Skill #13**

Candidate: \_\_\_\_\_ Date: \_\_\_\_\_

Academy: \_\_\_\_\_ Test Site: \_\_\_\_\_

HAZARDOUS MATERIALS TECHNICIAN	<u>TEST</u>		<u>RETEST</u>	
Implementing the Planned Response - Skill Number #13	S	U	S	U
<p>Given scenarios involving hazardous materials/WMD incidents, the hazardous materials technician shall select the tools, equipment, and materials for the control of hazardous materials/WMD incidents and identify the precautions for controlling releases from the packaging/containers and shall complete the following tasks:</p> <ul style="list-style-type: none"> <li>(5) Identify the maintenance and inspection procedures for the tools and equipment provided for the control of hazardous materials releases according to the manufacturer's specifications and recommendations.</li> <li>(6) Identify three considerations for assessing a leak or spill inside a confined space without entering the area.</li> <li>(7) Identify three safety considerations for product transfer operations.</li> <li>(8) Given an MC-306/DOT-406 cargo tank and a dome cover clamp, demonstrate the ability to install the clamp on the dome.</li> <li>(9) Identify the methods and precautions used to control a fire involving an MC-306/DOT-406 aluminum shell cargo tank.</li> <li>(10) Describe at least one method for containing each of the following types of leaks in MC-306/DOT-406, MC-307/DOT-407, and MC-312/DOT-412 cargo tanks:                         <ul style="list-style-type: none"> <li>(a) Dome cover leak</li> <li>(b) Irregular-shaped hole</li> <li>(c) Puncture</li> </ul> </li> </ul>				

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**TEXAS COMMISSION ON FIRE PROTECTION  
HAZARDOUS MATERIALS TECHNICIAN**

Performance Standards

(d) Split or tear (11) Describe three product removal and transfer considerations for overturned MC-306/DOT-406, MC-307/DOT-407, MC-312/DOT-412, MC-331, and MC-338 cargo tanks.  <span style="float: right;">(7.4.3)</span>				
<b>The candidate shall:</b>	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
a) Identify the maintenance and inspection procedures for the tools and equipment provided for the control of hazardous materials releases according to the manufacturer's specifications and recommendations.				
b) Identify three considerations for assessing a leak or spill inside a confined space without entering the area.				
c) Identify three safety considerations for product transfer operations.				
d) Given an MC-306/DOT-406 cargo tank and a dome cover clamp, demonstrate the ability to install the clamp on the dome.				
e) Identify the methods and precautions used to control a fire involving an MC-306/DOT-406 aluminum shell cargo tank.				
f) Describe at least one method for containing each of the following types of leaks in MC-306/DOT-406, MC-307/DOT-407, and MC-312/DOT-412 cargo tanks: (a) Dome cover leak (b) Irregular-shaped hole (c) Puncture (d) Split or tear				
g) Describe three product removal and transfer considerations for overturned MC-306/DOT-406, MC-307/DOT-407, MC-312/DOT-412, MC-331, and MC-338 cargo tanks.				
h) Properly bond and ground the cargo tank in preparation of conducting transfer operations				
i) All tasks performed while wearing a full structural firefighting protective ensemble including SCBA.				

**Evaluator/Candidate Comments:**

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
Performance Standards

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**All steps of the skill objective are mandatory and must be scored as “Satisfactory” to pass the skill.**

_____	_____	Overall Skill Sheet Score
Certifying Examiner	Date	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
_____	_____	Overall Skill Sheet Re-Test Score
Re-Test Certifying Examiner	Date	Pass <input type="checkbox"/> Fail <input type="checkbox"/>

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
Performance Standards

**Implementing the Planned Response**  
Decontamination Operations  
**Skill #14**

**PERFORMANCE STANDARD**

**Section 604**

**NFPA 472 7.4.5 (1), (2), (3)**

**TECHNICIAN**

**OBJECTIVE**

The hazardous materials technician shall demonstrate the ability to set up and implement the following types of decontamination operations:

- (1) Technical decontamination operations in support of entry operations
- (2) Technical decontamination operations involving ambulatory and non-ambulatory victims
- (3) Mass decontamination operations involving ambulatory and non-ambulatory victims

**INSTRUCTIONS - procedures for achieving the objective**

The technician, operating as a member of a team at a simulated hazardous materials incident, shall demonstrate how to perform technical and mass decontamination operations. You will be provided with the necessary equipment and water supply to set up and establish a technical contamination reduction corridor. After establishing a technical contamination reduction corridor, while wearing Level B chemical protective clothing (CPC) and a self-contained breathing apparatus (SCBA); you shall demonstrate the procedures to decontaminate responders and both ambulatory and non-ambulatory victims during a simulated hazardous materials incident. Working as part of a team you will establish a mass decontamination corridor and explain how the decontamination of both ambulatory and non-ambulatory victims will be conducted during a simulated mass casualty hazardous materials incident.

You will be graded as a team. You will begin on my instruction to start. The skill will end when you state or indicate to me that you have completed all the identified steps. Do you understand these instructions?

**EXAMINERS NOTE:**

The hazardous materials technician trainee will not be allowed to review the performance steps at the time of testing.

**PREPARATION & EQUIPMENT**

1. Emergency Response and Hazardous Materials Response Equipment
2. Technical Decontamination Equipment
3. Mass Decontamination Equipment

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
Performance Standards

4. Complete Level B CPC ensembles w/SCBAs
5. One technician in Level A CPC that has been “contaminated”  
    A dummy/manikin or a non responder victim to be decontaminated

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
 Performance Standards

**Implementing the Planned Response**  
 Decontamination Operations  
**Skill #14**

Candidate: \_\_\_\_\_ Date: \_\_\_\_\_

Academy: \_\_\_\_\_ Test Site: \_\_\_\_\_

<b>HAZARDOUS MATERIALS TECHNICIAN</b>	<b><u>TEST</u></b>		<b><u>RETEST</u></b>	
<b>Implementing the Planned Response - Skill Number 14</b>	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
The hazardous materials technician shall demonstrate the ability to set up and implement the following types of decontamination operations: (1) Technical decontamination operations in support of entry operations (2) Technical decontamination operations involving ambulatory and non-ambulatory victims (3) Mass decontamination operations involving ambulatory and non-ambulatory victims (7.4.5)				
<b>The candidate shall perform:</b>	<b>S</b>	<b>U</b>	<b>S</b>	<b>U</b>
a) Technical decontamination operations in support of entry operations				
1. Properly locates Contamination Reduction Corridor upwind, uphill, and in warm zone				
2. Provides protective measure to protect the environment from contamination by constructing a large catch basin with plastic				
3. Sets up decon pools to contain decontamination solution run off				
4. Clearly marks entrance and exit access points				
5. Container available at entrance access point, in hot zone, for contaminated tools				
6. Container available in CRC for contaminated CPC				
7. Establishes suit removal area with suitable seating next to cold zone and takes precautions to eliminate contamination				
8. Establishes water supply				
9. Provides water to each decon pool area (i.e. garden hose)				

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**TEXAS COMMISSION ON FIRE PROTECTION  
HAZARDOUS MATERIALS TECHNICIAN**

Performance Standards

10. Provides brushes for decon pool(s)				
11. Mixes proper decon solution for use				
b) Decontaminates a Technician				
1. Instructs technician to put tools in tool drop container				
2. Performs gross decontamination and wash at first decon pool to remove as much contamination as possible				
3. Performs wash/rinse at subsequent decon pool(s)				
4. Assist technician with CPC removal in doffing area				
5. Places contaminated CPC in proper drum				
6. Removes SCBA				
7. Instructs technician to move to medical evaluation area				
c) Technical decontamination operations involving ambulatory and non-ambulatory victims				
1. Transfer victim to emergency decontamination area				
2. Flush victim with copious amounts of water				
3. Remove outer layers of clothing				
4. Flush victim with copious amounts of water				
5. Remove victims respiratory protection if worn				
6. Cover with clean sheet				
7. Transfer care to EMS				
8. Transfer information regarding the name of the known or possible chemical hazard exposure				
d) Mass decontamination operations involving ambulatory and non-ambulatory victims				
1. Establishes a mass decontamination corridor in accordance with local protocols				
2. Establishes patient triage and treatment areas for both ambulatory and non-ambulatory victims				
3. Explains the mass decontamination process				
e) Conducts all decontamination operations while wearing full Level B liquid splash protective CPC				

**Evaluator/Candidate Comments:**

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**TEXAS COMMISSION ON FIRE PROTECTION**  
**HAZARDOUS MATERIALS TECHNICIAN**  
Performance Standards

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**All steps of the skill objective are mandatory and must be scored as “Satisfactory” to pass the skill.**

_____	_____	Overall Skill Sheet Score
Certifying Examiner	Date	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
_____	_____	Overall Skill Sheet Re-Test Score
Re-Test Certifying Examiner	Date	Pass <input type="checkbox"/> Fail <input type="checkbox"/>

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	A	B	C	D	E	F
1	<b>DISCIPLINE</b>	<b>OBJECTIVE</b>	<b>#</b>	<b>SKILL NAME</b>	<b>FUNCTIONAL NAME</b>	<b>NFPA #</b>
2	Awareness	General	1	DOT Guidebook	DOT Emergency Response Guidebook	4.1.2.2,4.2.3,4.4.1
3	Awareness	Analyzing	2	Container ID	Container Recognition	4.2.1 (6)
4	Awareness	Analyzing	3	Hazard Recognition	Detecting the Presence of Haz-Mat/WMD	4.2.1 (7-9)
5	Operations	General	1	Response Obj.	Analyze, Plan, Implement, and Evaluate Response	5.1.2.2
6	Operations	Analyzing	2	Container ID	Container ID - liquid, gas, and solid	5.2.1 (All)
7	Operations	Analyzing	3	Pesticide Label ID	Identify Pesticide Label Information	5.2.1.3.2
8	Operations	Analyzing	4	Identify MSDS	Collect hazard and response info using MSDS	5.2.2 (2), (3)
9	Operations	Analyzing	5	Endangered Area	Estimating the Size of an Endangered Area	5.2.4 (1), (2)
10	Operations	Implementing	6	Enforce scene control	Scene Control Zones / Public Protective Actions	5.4.1 (1-6)
11	Operations	Evaluating	7	Communication	Communicating the Status of the Planned Response	5.5.2 (1), (2)
12	MS Operations	Implementing	1	PPE	Donning, Working in, and Doffing PPE	6.2.4.1 (1-3),(5)
13	MS Operations	Implementing	2	PPE - Decon	Demonstrate Decontamination Procedures	6.2.4.1 (4)
14	MS Operations	Planning	3	Product Control ID	Identifying Product Control Options	6.6.3.1 (1), (2)
15	MS Operations	Implementing	4	Product Control	Implementing Product Control Options - Foam	6.6.4.1 (1), (2)
16	MS Operations	Implementing	5	Product Control	Implementing Product Control Options - AHJ	6.6.4.1 (3)
17	MS Operations	Implementing	6	Product Control	Highway Cargo Tanks Remote Shut-off	6.6.4.1 (4)
18	MS Operations	Implementing	7	Product Control	Fixed Facility Remote Shut-off Devices	6.6.4.1 (5)
19	TECHNICIAN	Analyzing	1	Contain ID	Containers Identification	7.2.1 (All)
20	TECHNICIAN	Analyzing	2	Sample Testing	Sampling and Monitoring/Surveying Equipment	7.2.1.3.5, 7.2.1.5
21	TECHNICIAN	Analyzing	3	Maintenance	Equipment Maintenance and Use	7.2.1.3.6
22	TECHNICIAN	Analyzing	4	Collecting Info	Collecting and Interpreting Information	7.2.2, 7.2.2.4
23	TECHNICIAN	Analyzing	5	Protective Actions	Identifying Areas of Concern for PPA	7.2.5.4
24	TECHNICIAN	Planning	6	Response Obj.	Identifying Response Objectives	7.3.1, 7.3.2
25	TECHNICIAN	Planning	7	CPC Selection	Selecting Chemical Protective Clothing	7.3.3, 7.3.3.4.6
26	TECHNICIAN	Planning	8	IAP	Incident Action Plan	7.3.5, 7.3.5.2
27	TECHNICIAN	Implementing	9	ICS	Performing Incident Command Duties	7.4.1
28	TECHNICIAN	Implementing	10	CPC	Using CPC and Respiratory Protection	7.4.2 (1-4)
29	TECHNICIAN	Implementing	11	Chlorine Kits	Chlorine Kits	7.4.3 (1), (2)
30	TECHNICIAN	Implementing	12	Contain Leak	Contain a Leak in a 55 Gallon Drum	7.4.3 (3), (4)
31	TECHNICIAN	Implementing	13	Cargo Tank	Highway Cargo Tank Emergency Response	7.4.3 (8-11)
32	TECHNICIAN	Implementing	14	Decon	Decontamination Operations	7.4.5 (1-3)