Standardized Curriculum Form
Ontario, Canada

Office of the Fire Marshal and Emergency Management
Curriculum based on
NFPA 472, Chapter 7, 2013 Edition

HAZARDOUS MATERIALS/WEAPONS OF MASS DESTRUCTION TECHNICIAN

National Fire Protection Association Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents

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Components of the Office of the Fire Marshal and Emergency Management Standardized Curriculum Form

The Office of the Fire Marshal and Emergency Management (OFMEM) Standardized Curriculum Forms in Ontario, Canada, are based on internationally-recognized, competency-based, professional qualifications standards through the National Fire Protection Association (NFPA). Columns within this form from pages 4 and onward are composed of:

NFPA Objective

National Fire Protection Association Objectives are major competencies and Job Performance Requirements (JPR) within a professional qualifications standard that learners must acquire before successful completion of voluntary testing and certification. To attain these competencies, the OFMEM is offering flexible training delivery models centered on being accessible, attainable, and affordable.

Requisite Knowledge

As defined in published NFPA Professional Qualifications Standards, Requisite Knowledge is "Fundamental knowledge one must have in order to perform a specific task". This can be acquired by referring to the various suggested readings described below. Information used to construct multiple choice test questions in the Provincial Certification Exam for HAZARDOUS MATERIALS/WMD TECHNICIAN are derived from these materials.

Requisite Skills

As defined in published NFPA Professional Qualifications Standards, Requisite Skills are "The essential skills one must have in order to perform a specific task". This can be acquired by referring to the various suggested readings described below along with the latest version of the Office of the Fire Marshal and Emergency Management's Skills Sheets Booklet for HAZARDOUS MATERIALS/WMD TECHNICIAN. This booklet is used by Provincial Examiners to test Requisite Skill requirements for those voluntarily seeking certification to NFPA 472, Chapter 7, 2013 Edition.

Suggested Readings

Multiple choice test bank questions in the Provincial Certification Exam for HAZARDOUS MATERIALS/WMD TECHNICIAN are derived from the following suggested readings:

Publisher/Title/Edition	Key Word Reference
1. NFPA 472, *Standard for Professional Competence of Responders to Hazardous Materials Incidents*, 2013 Edition	NFPA 472, 2013 Ed.
2. IFSTA, *Hazardous Materials Technician*, 1st Edition	IFSTA HMT, 1st Ed.
OR	
3. Jones and Bartlett, *Hazardous Materials: Managing the Incident*, 4th Edition	J&B HMMTI, 4th Ed.

Knowledge Test Weighting (Out of 100%)

This column references percentage of multiple choice questions that will appear on the Provincial Certification Exam for knowledge-based testing for HAZARDOUS MATERIALS/WMD TECHNICIAN.

Questions are validated by a Provincial Advisory Committee (PAC), and used for voluntary, knowledge-based testing of those seeking certification to NFPA 472, Chapter 7, 2013 Edition through the Academic Standards and Evaluation Section of the Office of the Fire Marshal and Emergency Management. A mark of 70% or better is required to receive a "Pass" on the knowledge test.

Skill Objective #

This column references skill objectives that will be evaluated by the Office of the Fire Marshal and Emergency Management, to test Requisite Skill requirements of HAZARDOUS MATERIALS/WMD TECHNICIAN for those voluntarily seeking certification to NFPA 472, Chapter 7, 2013 Edition.

Provincial Advisory Committee for HAZARDOUS MATERIALS/WMD TECHNICIAN
NFPA 472, Chapter 7, 2013 Edition

This document has been reviewed and signed-off by the following representatives of the Office of the Fire Marshal and Emergency Management (OFMEM) in Ontario, Canada:

Educational Consultant Academic Standards and Evaluation Section	Date
Educational Consultant Academic Standards and Evaluation Section	Date
Section Manager Academic Standards and Evaluation Section	Date
Fire Marshal and Chief, Emergency Management Ministry of Community Safety and Correctional Services	Date

Course: HAZARDOUS MATERIALS/WEAPONS OF MASS DESTRUCTION TECHNICIAN

Standard: NFPA 472, Chapter 7, 2013 Edition

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
7.1 General					
7.1.1 Introduction					
7.1.1.1					
The hazardous materials technician shall be that person who responds to hazardous materials/WMD incidents using a risk-based response process by which he or she analyzes a problem involving hazardous materials/WMD, selects applicable decontamination procedures, and controls a release using specialized protective clothing and control equipment *[see 7.1.2.2(1)]*.					
7.1.1.2					
The hazardous materials technicians shall be trained to meet all competencies at the awareness level (Chapter 4), all core competencies at the operations level (Chapter 5), and all competencies of this chapter.					
7.1.1.3					
The hazardous materials technicians shall receive additional training to meet governmental health and safety regulations.					
7.1.1.4					
The hazardous materials technician shall be permitted to have additional competencies that are specific to the response mission, expected tasks, and equipment and training as determined by the AHJ.					
7.1.2 Goal.					
7.1.2.1					
The goal of the competencies in this chapter shall					

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
be to provide the hazardous materials technician with the knowledge and skills to perform the tasks in 7.1.2.2 safely.					
7.1.2.2					
In addition to being competent at both the awareness and operational levels, the hazardous materials technician shall be able to perform the following tasks:	(1) Analyze a hazardous materials/WMD incident to determine the complexity of the problem and potential outcomes by completing the following tasks:	(3) Implement the planned response to favorably change the outcomes consistent with the organization's standard operating procedures and site safety and control plan by completing the following tasks:	**IFSTA HMT, 1st Ed. Chapters 1, 10** **J&B HMMTI, 4th Ed. Chapter 6**	**3% of questions**	**Objective 1**
	(a) Survey the hazardous materials/WMD incident to identify special containers involved, to identify or classify unknown materials, and to verify the presence and concentrations of hazardous materials through the use of monitoring equipment	(a) Perform the duties of an assigned hazardous materials branch or group position within the local incident management system (IMS)			
	(b) Collect and interpret hazard and response information from printed and technical resources, computer databases, and monitoring equipment.	(b) Don, work in, and doff personal protective clothing, including, but not limited to, both liquid splash- and vapor-protective clothing with correct respiratory protection			
	(c) Describe the type and extent of damage to containers	(c) Perform the control functions identified in the incident action plan			
	(d) Predict the likely behavior of released materials and their containers when multiple materials are involved	(d) Perform the decontamination functions identified in the incident action plan			
	(e) Estimate the size of an endangered area using computer modeling, monitoring equipment, or specialists in this field	(5) Terminate the incident by completing the following tasks:			
	(2) Plan a response within the capabilities of available personnel, personal protective equipment, and control equipment by completing the following tasks:	(a) Assist in the incident debriefing			
	(a) Describe the response objectives for hazardous materials/WMD incidents	(b) Assist in the incident critique.			
	(b) Describe the potential response options	(c) Provide reports and documentation of the			

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
	available by response objective	incident			
	(c) Select the personal protective equipment required for a given action option				
	(d) Select a technical decontamination process to minimize the hazard				
	(e) Develop an incident action plan for a hazardous materials/WMD incident, including a site safety and control plan, consistent with the emergency response plan or standard operating procedures and within the capability of the available personnel, personal protective equipment, and control equipment				
	(4) Evaluate the progress of the planned response by completing the following tasks:				
	(a) Evaluate the effectiveness of the control functions				
	(b) Evaluate the effectiveness of the decontamination process				
7.2 Competencies - Analyzing the Incident					
7.2.1 Surveying Hazardous Materials/WMD Incidents					
Given examples of hazardous materials/WMD incidents, the hazardous materials technician shall identify containers involved and, given the necessary equipment, identify or classify unknown materials involved, verify the identity of the hazardous materials/WMD involved, and determine the concentration of hazardous materials, by completing the requirements of 7.2.1.1 through 7.2.1.5.					
7.2.1.1					
	Given examples of various containers for hazardous materials/WMD, the hazardous		**IFSTA HMT, 1st Ed. Chapters 1, 10**	**20% of questions for**	

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
	materials technician shall identify each container by name and specification and identify the typical contents by name and hazard class.		**J&B HMMTI, 4th Ed. Chapter 6**	**all of 7.2.1 (7.2.1.1 to 7.2.1.4)**	
7.2.1.1.1					
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		**IFSTA HMT, 1st Ed. Chapter 10** **J&B HMMTI, 4th Ed. Chapter 6**	**Please refer to 7.2.1.1 above**	
	(2) Nonpressure tank cars				
	(3) Pneumatically unloaded hopper cars				
	(4) Pressure tank cars				
7.2.1.1.2					
Given examples of the following intermodal tanks, the hazardous materials technician shall identify the container by name and specification and identify the typical container by name and hazard class:	(1) Nonpressure intermodal tanks:		**IFSTA HMT, 1st Ed. Chapter 10** **J&B HMMTI, 4th Ed. Chapter 6**	**Please refer to 7.2.1.1 above**	
	(a) IM-101 portable tanks (IMO Type 1 internationally)				
	(b) IM-102 portable tanks (IMO Type 2 internationally)				
	(2) Pressure intermodal tanks (DOT Specification 51;IMO Type 5 internationally)				
	(3) Specialized intermodal tanks:				
	(a) Cryogenic intermodal tanks (IMO Type 7 internationally)				
	(b) Tube modules				
7.2.1.1.3					
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		**IFSTA HMT, 1st Ed. Chapter 10** **J&B HMMTI, 4th Ed. Chapter 6**	**Please refer to 7.2.1.1 above**	
	(2) Corrosive liquid tanks				
	(3) Cryogenic liquid tanks				
	(4) Dry bulk cargo tanks				
	(5) High-pressure tanks				

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
	(6) Low pressure chemical tanks				
	(7) Nonpressure liquid tanks				
7.2.1.1.4					
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		**IFSTA HMT, 1st Ed. Chapter 10** **J&B HMMTI, 4th Ed. Chapter 6**	**Please refer to 7.2.1.1 above**	
	(2) Nonpressure tank				
	(3) Pressure tank				
7.2.1.1.5					
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		**IFSTA HMT, 1st Ed. Chapter 10** **J&B HMMTI, 4th Ed. Chapter 6**	**Please refer to 7.2.1.1 above**	
	(2) Carboys				
	(3) Cylinders				
	(4) Drums				
7.2.1.1.6					
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		**IFSTA HMT, 1st Ed. Chapter 10** **J&B HMMTI, 4th Ed. Chapter 6**	**Please refer to 7.2.1.1 above**	
	(2) Industrial				
	(3) Type A				
	(4) Type B				
	(5) Type C				
7.2.1.1.7					
Given examples of the following packaging, the hazardous materials technician shall identity the package by name and identify the typical contents by name and hazard class:	(1) Intermediate bulk container (IBC)		**IFSTA HMT, 1st Ed. Chapter 10** **J&B HMMTI, 4th Ed. Chapter 6**	**Please refer to 7.2.1.1 above**	
	(2) Ton container				
7.2.1.2					
	Given three examples of facility and transportation containers, the hazardous materials technician		**IFSTA HMT, 1st Ed. Chapter 10**	**Please refer to 7.2.1.1 above**	

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
	shall identify the approximate capacity of each container.		**J&B HMMTI, 4th Ed. Chapter 6**		
7.2.1.2.1					
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		**IFSTA HMT, 1st Ed. Chapter 10** **J&B HMMTI, 4th Ed. Chapter 6**	**Please refer to 7.2.1.1 above**	
	(2) Tank cars				
	(3) Tank containers				
7.2.1.2.2					
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		**IFSTA HMT, 1st Ed. Chapter 10** **J&B HMMTI, 4th Ed. Chapter 6**	**Please refer to 7.2.1.1 above**	
	(2) Nonpressure tank (general service or low-pressure tank)				
	(3) Pressure tank				
7.2.1.3					
	Given at least three unknown materials/WMD, one of which is a solid, one a liquid, and one a gas, the hazardous materials technician shall identify or classify by hazard each unknown material.		**IFSTA HMT, 1st Ed. Chapter 7** **J&B HMMTI, 4th Ed. Chapter 7**	**Please refer to 7.2.1.1 above**	
7.2.1.3.1					
	The hazardous materials technician shall identify the steps in an analysis process for identifying unknown solid and liquid materials.		**IFSTA HMT, 1st Ed. Chapter 7** **J&B HMMTI, 4th Ed. Chapter 7**	**Please refer to 7.2.1.1 above**	
7.2.1.3.2					
	The hazardous materials technician shall identify the steps in an analysis process for identifying an unknown atmosphere.		**IFSTA HMT, 1st Ed. Chapter 7** **J&B HMMTI, 4th Ed.**	**Please refer to 7.2.1.1 above**	

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
			Chapter 7		
7.2.1.3.3					
The hazardous materials technician shall identify the type(s) of monitoring technology used to determine the following hazards:	(1) Corrosivity		**IFSTA HMT, 1st Ed. Chapter 7** **J&B HMMTI, 4th Ed. Chapter 7**	**Please refer to 7.2.1.1 above**	
	(2) Flammability				
	(3) Oxidation potential				
	(4) Oxygen deficiency				
	(5) Pathogenicity				
	(6) Radioactivity				
	(7) Toxicity				
7.2.1.3.4					
The hazardous materials technician shall identify the capabilities and limiting factors associated with the selection and use of the following monitoring equipment, test strips, and reagents:	(1) Biological immunoassay indicators		**IFSTA HMT, 1st Ed. Chapter 7** **J&B HMMTI, 4th Ed. Chapter 7**	**Please refer to 7.2.1.1 above**	
	(2) Chemical agent monitors (CAMs)				
	(3) Colorimetric indicators [colorimetric detector tubes, indicating papers (pH paper and meters), reagents, test strips]				
	(4) Combustible gas indicator				
	(5) DNA fluorosopy				
	(6) Electrochemical cells (carbon monoxide meter, oxygen meter)				
	(7) Flame ionization detector				
	(8) Gas chromatograph/mass spectrometer (GC/MS)				
	(9) Infrared spectroscopy				
	(10) Ion mobility spectroscopy				
	(11) Gamma spectrometer [radioisotope identification device (RIID)]				
	(12) Metal oxide sensor				
	(13) Photoionization detectors				
	(14) Polymerase chain reaction (PCR)				
	(15) Radiation detection and measurement				

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
	instruments				
	(16) Raman spectroscopy				
	(17) Surface acoustical wave (SAW)				
	(18) Wet Chemistry				
7.2.1.3.5					
Given three hazardous materials/WMD, one of which is a solid, one a liquid, and one a gas, and using equipment, test strips, and reagents, provided by the AHJ as applicable, 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	**IFSTA HMT, 1st Ed. Chapter 7** **J&B HMMTI, 4th Ed. Chapter 7**		**Objective 2**
		(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			
7.2.1.3.6					
		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.	**IFSTA HMT, 1st Ed. Chapter 7** **J&B HMMTI, 4th Ed. Chapter 7**		**Objective 3**
7.2.1.4					
	Given a label for a radioactive material, the hazardous materials technician shall identify the type or category of label, contents, activity,		**IFSTA HMT, 1st Ed. Chapter 4**	**Please refer to 7.2.1.1 above**	

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
	transport index, and criticality safety index as applicable, then describe the radiation dose rates associated with each label.		**J&B HMMTI, 4th Ed. Chapter 6**		
7.2.1.5					
The hazardous materials technician shall demonstrate methods for collecting samples of the following:		(1) Gas	**IFSTA HMT, 1st Ed. Chapter 7** **J&B HMMTI, 4th Ed. Chapter 7**		**Objective 4**
		(2) Liquid			
		(3) Solid			
7.2.2 Collecting and Interpreting Hazard and Response Information					
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 a MSDS and shall meet the requirements of 7.2.2.1 through 7.2.2.6.					
7.2.2.1					
The hazardous materials technician shall identify and interpret the types of hazard and response information available from each of the following resources and explain the advantages and disadvantages of each resource:	(1) Hazardous materials databases		**IFSTA HMT, 1st Ed. Chapters 1, 6** **J&B HMMTI, 4th Ed. Chapter 7**	**20% of questions for all of 7.2.2 (7.2.2.1 to 7.2.2.6)**	
	(2) Monitoring equipment				
	(3) Reference manuals				
	(4) Technical information centers (i.e., CHEMTREC/CANUTEC/SETIQ and local, state, and federal authorities)				
	(5) Technical information specialists				
7.2.2.2					
The hazardous materials technician shall describe the following terms and explain their significance in the analysis process:	(1) Corrosive (acids and bases/alkaline)		**IFSTA HMT, 1st Ed. Chapters 3, 4, 5, 7, 8, 11**	**Please refer to 7.2.2.1 above**	

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
	(2) Air reactivity		**J&B HMMTI, 4th Ed. Chapter 7**		
	(3) Autorefrigeration				
	(4) Biological agents and biological toxins				
	(5) Blood agents				
	(6) Boiling point				
	(7) Catalyst				
	(8) Chemical change				
	(9) Chemical interactions				
	(10) Compound, mixture				
	(11) Concentration				
	(12) Critical temperature and pressure				
	(13) Dissociation (acid/base)				
	(14) Dose				
	(15) Dose response				
	(16) Expansion ratio				
	(17) Fire point				
	(18) Flammable (explosive) range (LEL and UEL)				
	(19) Flash point				
	(20) Half-life				
	(21) Halogenated hydrocarbon				
	(22) Ignition (autoignition) temperature				
	(23) Inhibitor				
	(24) Instability				
	(25) Ionic and covalent compounds				
	(26) Irritants (riot control agents)				
	(27) Maximum safe storage temperature (MSST)				
	(28) Melting point and freezing point				
	(29) Miscibility				
	(30) Nerve agents				
	(31) Organic and inorganic				
	(32) Oxidation potential				
	(33) Persistence				
	(34) pH				

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
	(35) Physical change (36) Physical state (solid, liquid, gas) (37) Polymerization (38) Radioactivity (39) Reactivity (40) Riot control agents (41) Saturated, unsaturated (straight and branched), and aromatic hydrocarbons (42) Self-accelerating decomposition temperature (SADT) (43) Solubility (44) Solution and slurry (45) Specific gravity (46) Strength (47) Sublimation (48) Temperature of product (49) Toxic products of combustion (50) Vapor density (51) Vapor pressure (52) Vesicants (blister agents) (53) Viscosity (54) Volatility				
7.2.2.3					
	The hazardous materials technician shall describe the heat transfer processes that occur as a result of a cryogenic liquid spill.		**IFSTA HMT, 1st Ed. Chapter 3** **J&B HMMTI, 4th Ed. Chapter 7**	**Please refer to 7.2.2.1 above**	
7.2.2.4					
	Given five hazardous material/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.		**IFSTA HMT, 1st Ed. Chapter 5** **J&B HMMTI, 4th Ed. Chapter 7**	**Please refer to 7.2.2.1 above**	

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
7.2.2.5					
	The hazardous materials technician shall identify two methods for determining the pressure in bulk packaging or facility containers.		**IFSTA HMT, 1st Ed. Chapter 11** **J&B HMMTI, 4th Ed. Chapter 7**	**Please refer to 7.2.2.1 above**	
7.2.2.6					
	The hazardous materials technician shall identify one method for determining the amount of lading remaining in damaged bulk packaging or facility containers.		**IFSTA HMT, 1st Ed. Chapter 11** **J&B HMMTI, 4th Ed. Chapter 7**	**Please refer to 7.2.2.1 above**	
7.2.3 Describing the Condition of the Container Involved in the Incident					
Given examples of container damage, the hazardous materials technician shall describe the damage by completing the related requirements of 7.2.3.1 through 7.2.3.5.					
7.2.3.1					
Given three examples of containers, including the DOT specification markings for nonbulk and bulk packaging, and associated reference guides, the hazardous materials technician shall identify the basic design and construction features of each container.					
7.2.3.1.1					
The hazardous materials technician shall identify the basic design and construction features, including closures, of the following bulk containers:	(1) Cargo tanks		**IFSTA HMT, 1st Ed. Chapter 10** **J&B HMMTI, 4th Ed. Chapter 6**	**8% of questions for all of 7.2.3 (7.2.3.1.1 to 7.2.3.4)**	
	(a) Compressed gas tube trailers				
	(b) Corrosive liquid tanks				
	(c) Cryogenic liquid tanks				
	(d) Dry bulk cargo tanks				
	(e) High-pressure tanks				
	(f) Low-pressure liquid tanks				

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
	(g) Nonpressure liquid tanks				
	(2) Fixed facility tanks				
	(a) Cryogenic liquid tanks				
	(b) Nonpressure tanks				
	(c) Pressure tanks				
	(3) Intermediate bulk containers (also known as tote tanks)				
	(4) Intermodal tanks				
	(a) Nonpressure intermodal tanks				
	i. IM-101 portable tank (IMO Type 1 internationally)				
	ii. IM-102 portable tank (IMO Type 2 internationally)				
	(b) Pressure intermodal tanks (DOT Specification 51; IMO Type 5 internationally)				
	(c) Specialized intermodal tanks				
	i. Cryogenic intermodal tanks (IMO Type 7 internationally)				
	ii. Tube modules				
	(5) One-ton containers (pressure drums)				
	(6) Pipelines				
	(7) Railroad cars				
	(a) Cryogenic liquid tank cars				
	(b) Nonpressure tank cars				
	(c) Pneumatically unloaded hopper cars				
	(d) Pressure tank cars				
7.2.3.1.2					
The hazardous materials technician shall identify the basic design and construction features, including closures of the following nonbulk containers:	(1) Bags		**IFSTA HMT, 1st Ed. Chapter 10** **J&B HMMTI, 4th Ed. Chapter 6**	**Please refer to 7.2.3.1.1 above**	
	(2) Carboys				
	(3) Drums				
	(4) Cylinders				

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
7.2.3.1.3					
The hazardous materials technician shall identify the basic design features and testing requirements on the following radioactive materials packages:	(1) Excepted		**IFSTA HMT, 1st Ed. Chapter 10** **J&B HMMTI, 4th Ed. Chapter 6**	**Please refer to 7.2.3.1.1 above**	
	(2) Industrial				
	(3) Type A				
	(4) Type B				
	(5) Type C				
7.2.3.2					
	The hazardous materials technician shall describe how a liquid petroleum product pipeline can carry different products.		**IFSTA HMT, 1st Ed. Chapter 10** **J&B HMMTI, 4th Ed. Chapter 6**	**Please refer to 7.2.3.1.1 above**	
7.2.3.3					
Given an example of a pipeline, the hazardous materials technician shall identify the following:	(1) Ownership of the line		**IFSTA HMT, 1st Ed. Chapter 10** **J&B HMMTI, 4th Ed. Chapter 6**	**Please refer to 7.2.3.1.1 above**	
	(2) Procedures for checking for gas migration				
	(3) Procedure for shutting down the line or controlling the leak				
	(4) Type of product in the line				
7.2.3.4					
	Given examples of container stress or damage, the hazardous materials technician shall identify the type of damage in each example and assess the level of risk associated with the damage.		**IFSTA HMT, 1st Ed. Chapter 2** **J&B HMMTI, 4th Ed. Chapter 7**	**Please refer to 7.2.3.1.1 above**	
7.2.3.5					
		Given a scenario involving radioactive materials, the hazardous materials technician, using available survey and monitoring equipment, shall determine if the integrity of any container has been breached.	**IFSTA HMT, 1st Ed. Chapter 7** **J&B HMMTI, 4th Ed. Chapter 7**		**Objective 5**
7.2.4 Predicting Likely Behavior of Materials and Their Containers Where Multiple Materials					

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
Are Involved					
Given examples of hazardous materials/WMD incidents involving multiple hazardous materials or WMD, the hazardous materials technician shall predict the likely behavior of the material in each case and meet the related requirements in 7.2.4.1 and 7.2.4.3.					
7.2.4.1					
	The hazardous materials technician shall identify at least three resources available that indicate the effects of mixing various hazardous materials.		**IFSTA HMT, 1st Ed. Chapter 3** **J&B HMMTI, 4th Ed. Chapter 7**	**1% of questions for all of 7.2.4 (7.2.4.1 to 7.2.4.3)**	
7.2.4.2					
The hazardous materials technician shall identify the impact of the following fire and safety features on the behavior of the products during an incident at a bulk liquid facility and explain their significance in the risk assessment process:	(1) Fire protection systems		**IFSTA HMT, 1st Ed. Chapter 10** **J&B HMMTI, 4th Ed. Chapter 10**	**Please refer to 7.2.4.1 above**	
	(2) Monitoring and detection systems				
	(3) Pressure relief and vacuum relief protection				
	(4) Product spillage and control (impoundment and diking)				
	(5) Tank spacing				
	(6) Transfer operations				
7.2.4.3					
The hazardous materials technician shall identify the impact of the following fire and safety features on the behavior of the products during an incident at a bulk gas facility and explain their significance in the analysis process:	(1) Fire protection systems		**IFSTA HMT, 1st Ed. Chapter 10** **J&B HMMTI, 4th Ed. Chapter 10**	**Please refer to 7.2.4.1 above**	
	(2) Monitoring and detection systems				
	(3) Pressure relief protection				
	(4) Transfer operations				
7.2.5 Estimating the Likely Size of an					

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
Endangered Area					
Given examples of hazardous materials/WMD incidents, the hazardous materials technician shall estimate the likely size, shape, and concentrations associated with the release of materials involved in an incident by using computer modeling, monitoring equipment, or specialists in this field by completing the requirements in 7.2.5.1 through 7.2.5.4.					
7.2.5.1					
	Given the emergency response plan, the hazardous materials technician shall identify resources for dispersion pattern prediction and modeling, including computers, monitoring equipment, or specialists in the field.		**IFSTA HMT, 1st Ed. Chapter 1** **J&B HMMTI, 4th Ed. Chapter 7; Local Policy**	**9% of questions for all of 7.2.5 (7.2.5.1 to 7.2.5.4)**	
7.2.5.2					
	Given the quantity, concentration, and release rate of a material, the hazardous materials technician shall identify the steps for determining the likely extent of the physical, safety, and health hazards within the endangered area of a hazardous materials/WMD incident.		**IFSTA HMT, 1st Ed. Chapter 1** **J&B HMMTI, 4th Ed. Chapter 7**	**Please refer to 7.2.5.1 above**	
7.2.5.2.1					
The hazardous materials technician shall describe the following terms and exposure values and explain their significance in the analysis process:	(1) Counts per minute (cpm) and kilocounts per minute (kcpm)		**IFSTA HMT, 1st Ed. Chapter 5** **J&B HMMTI, 4th Ed. Chapters 2, 7**	**Please refer to 7.2.5.1 above**	
	(2) Immediately dangerous to life and health (IDLH) value				
	(3) Incubation period				
	(4) Infectious dose				
	(5) Lethal concentrations (LC_{50})				
	(6) Lethal dose (LD_{50})				
	(7) Parts per billion (ppb)				
	(8) Parts per million (ppm)				
	(9) Permissible exposure limit (PEL)				

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
	(10) Radiation absorbed dose (rad) (11) Roentgen equivalent man (rem); Millirem (mrem), microrem (µrem) (12) Threshold limit value ceiling (TLV-C) (13) Threshold limit value short-term exposure limit (TLV-STEL) (14) Threshold limit value time-weighted average (TLV-TWA)				
7.2.5.2.2					
	The hazardous materials technician shall identify two methods for predicting the areas of potential harm within the endangered area of a hazardous materials/WMD incident.		**IFSTA HMT, 1st Ed. Chapter 1** **J&B HMMTI, 4th Ed. Chapter 7**	**Please refer to 7.2.5.1 above**	
7.2.5.3					
	The hazardous materials technician shall identify the steps for estimating the outcomes within an endangered area of a hazardous materials/WMD incident.		**IFSTA HMT, 1st Ed. Chapter 1** **J&B HMMTI, 4th Ed. Chapter 7**	**Please refer to 7.2.5.1 above**	
7.2.5.4					
	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.		**IFSTA HMT, 1st Ed. Chapter 1** **J&B HMMTI, 4th Ed. Chapter 7**	**Please refer to 7.2.5.1 above**	**Objective 6**
7.3 Competencies - Planning the Response					
7.3.1 Identifying Response Objectives					
7.3.1.1					
	Given scenarios involving hazardous materials/WMD incidents, the hazardous materials technician shall describe the response objectives for each problem.		**IFSTA HMT, 1st Ed. Chapter 11** **J&B HMMTI, 4th Ed.**	**1% of questions for all of 7.3.1 (7.3.1.1 to**	

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
			Chapters 7, 10	**7.3.1.2)**	
7.3.1.2					
	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 non-intervention).		**IFSTA HMT, 1st Ed. Chapter 11** **J&B HMMTI, 4th Ed. Chapters 7, 10**	**Please refer to 7.3.1.1 above**	
7.3.2 Identifying the Potential Response Options					
7.3.2.1					
	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.		**IFSTA HMT, 1st Ed. Chapter 11** **J&B HMMTI, 4th Ed. Chapters 7, 10**	**2% of questions for all of 7.3.2 (7.3.2.1 to 7.3.2.2)**	
7.3.2.2					
	The hazardous materials technician shall be able to identify the possible response options to accomplish a given response objective.		**IFSTA HMT, 1st Ed. Chapter 11** **J&B HMMTI, 4th Ed. Chapter 10**	**Please refer to 7.3.2.1 above**	
7.3.3 Selecting Personal Protective Equipment					
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 by completing the requirements of 7.3.3.1 through 7.3.3.4.8.					
7.3.3.1					
	The hazardous materials technician shall describe types of personal protective equipment that are available for response based on NFPA standards and how these items relate to EPA levels of		**IFSTA HMT, 1st Ed. Chapter 8** **J&B HMMTI, 4th Ed.**	**10% of questions for all of 7.3.3 (7.3.3.1 to**	

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
	protection.		**Chapter 8**	**7.3.3.4.8)**	
7.3.3.2					
The hazardous materials technician shall identify and describe personal protective equipment options available for the following hazards:	(1) Thermal		**IFSTA HMT, 1st Ed. Chapter 8** **J&B HMMTI, 4th Ed. Chapter 8**	**Please refer to 7.3.3.1 above**	
	(2) Radiological				
	(3) Asphyxiating				
	(4) Chemical (liquids and vapors)				
	(5) Etiological (biological)				
	(6) Mechanical (explosives)				
7.3.3.3					
	The hazardous materials technician shall identify the process to be considered in selecting respiratory protection for a specified action option.		**IFSTA HMT, 1st Ed. Chapter 8** **J&B HMMTI, 4th Ed. Chapter 8**	**Please refer to 7.3.3.1 above**	
7.3.3.4					
	The hazardous materials technician shall identify the factors to be considered in selecting chemical-protective clothing for a specified action option.		**IFSTA HMT, 1st Ed. Chapter 8** **J&B HMMTI, 4th Ed. Chapter 8**	**Please refer to 7.3.3.1 above**	
7.3.3.4.1					
The hazardous materials technician shall describe the following terms and explain their impact and significance on the selection of chemical-protective clothing:	(1) Degradation		**IFSTA HMT, 1st Ed. Chapter 8** **J&B HMMTI, 4th Ed. Chapter 8**	**Please refer to 7.3.3.1 above**	
	(2) Penetration				
	(3) Permeation				
7.3.3.4.2					
	The hazardous materials technician shall identify at least three indications of material degradation of chemical-protective clothing.		**IFSTA HMT, 1st Ed. Chapter 8** **J&B HMMTI, 4th Ed. Chapter 8**	**Please refer to 7.3.3.1 above**	

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
7.3.3.4.3					
	The hazardous materials technician shall identify the different designs of vapor-protective and splash-protective clothing and describe the advantages and disadvantages of each type.		**IFSTA HMT, 1st Ed. Chapter 8** **J&B HMMTI, 4th Ed. Chapter 8**	**Please refer to 7.3.3.1 above**	
7.3.3.4.4					
The hazardous materials technician shall identify the relative advantages and disadvantages of the following heat exchange units used for the cooling of personnel in personal protective equipment:	(1) Air cooled		**IFSTA HMT, 1st Ed. Chapter 8** **J&B HMMTI, 4th Ed. Chapter 2**	**Please refer to 7.3.3.1 above**	
	(2) Ice cooled				
	(3) Water cooled				
	(4) Phase change cooling technology				
7.3.3.4.5					
	The hazardous materials technician shall identify the process for selecting protective clothing at hazardous materials/WMD incidents.		**IFSTA HMT, 1st Ed. Chapter 6** **J&B HMMTI, 4th Ed. Chapter 8**	**Please refer to 7.3.3.1 above**	
7.3.3.4.6					
	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.		**IFSTA HMT, 1st Ed. Chapter 8** **J&B HMMTI, 4th Ed. Chapter 8**	**Please refer to 7.3.3.1 above**	**Objective 7**
7.3.3.4.7					
	The hazardous materials technician shall identify the physiological and psychological stresses that can affect users of specialized protective equipment.		**IFSTA HMT, 1st Ed. Chapter 8** **J&B HMMTI, 4th Ed. Chapter 2**	**Please refer to 7.3.3.1 above**	
7.3.3.4.8					
	Given the personal protective equipment provided by the AHJ, the hazardous materials technician		**IFSTA HMT, 1st Ed. Chapter 8**	**Please refer to 7.3.3.1 above**	

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
	shall identify the process for inspecting, testing, and maintenance of personal protective equipment.		**J&B HMMTI, 4th Ed. Chapter 8; Based on Local PPE Protocol**		
7.3.4 Selecting Decontamination Procedures					
Given a scenario involving a hazardous materials incident/WMD, the hazardous materials technician shall select a decontamination procedure that will minimize the hazard, shall determine the equipment required to implement that procedure, and shall complete the following tasks:	(1) Describe the advantages and limitations of each of the following decontamination methods:		**IFSTA HMT, 1st Ed. Chapter 9** **J&B HMMTI, 4th Ed. Chapter 11**	**3% of questions**	
	(a) Absorption				
	(b) Adsorption				
	(c) Chemical degradation				
	(d) Dilution				
	(e) Disinfecting				
	(f) Evaporation				
	(g) Isolation and disposal				
	(h) Neutralization				
	(i) Solidification				
	(j) Sterilization				
	(k) Vacuuming				
	(l) Washing				
	(2) Identify three sources of information for determining the applicable decontamination procedure and identify how to access those resources in a hazardous materials/WMD incident.				
7.3.5 Developing a Plan of Action					
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					

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
available personnel, personal protective equipment, and control equipment for that incident by completing the requirements of 7.3.5.1 through 7.3.5.5.					
7.3.5.1					
The hazardous materials technician shall describe the purpose of, procedures for, equipment required for, and safety precautions used with the following techniques for hazardous materials/WMD control:	(1) Adsorption		**IFSTA HMT, 1st Ed. Chapters 9, 11** **J&B HMMTI, 4th Ed. Chapter 10**	**10% of questions for all of 7.3.5 (7.3.5.1 to 7.3.5.5)**	
	(2) Adsorption				
	(3) Blanketing				
	(4) Covering				
	(5) Damming				
	(6) Diking				
	(7) Dilution				
	(8) Dispersion				
	(9) Diversion				
	(10) Fire suppression				
	(11) Neutralization				
	(12) Overpacking				
	(13) Patching				
	(14) Plugging				
	(15) Pressure isolation and reduction (flaring; venting; vent and burn; isolation of valves, pumps, or energy sources)				
	(16) Retention				
	(17) Solidification				
	(18) Transfer				
	(19) Vapor control (dispersion, suppression)				
7.3.5.2					
	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.		**IFSTA HMT, 1st Ed. Chapter 2** **J&B HMMTI, 4th Ed. Chapter 10**	**Please refer to 7.3.5.1 above**	**Objective 8**

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
7.3.5.2.1					
	The hazardous materials technician shall list and describe the safety considerations to be included.		**IFSTA HMT, 1st Ed. Chapter 2** **J&B HMMTI, 4th Ed. Chapters 2, 8, 10**	**Please refer to 7.3.5.1 above**	
7.3.5.2.2					
	The hazardous materials technician shall identify the points that should be made in a safety briefing prior to working at the scene.		**IFSTA HMT, 1st Ed. Chapter 2** **J&B HMMTI, 4th Ed. Chapters 2, 8, 10**	**Please refer to 7.3.5.1 above**	
7.3.5.3					
	The hazardous materials technician shall identify the atmospheric and physical safety hazards associated with hazardous materials/WMD incidents involving confined spaces.		**IFSTA HMT, 1st Ed. Chapter 7** **J&B HMMTI, 4th Ed. Chapter 10**	**Please refer to 7.3.5.1 above**	
7.3.5.4					
	The hazardous materials technician shall identify the pre-entry activities to be performed.		**IFSTA HMT, 1st Ed. Chapter 2** **J&B HMMTI, 4th Ed. Chapters 2, 8**	**Please refer to 7.3.5.1 above**	
7.3.5.5					
	The hazardous materials technician shall identify the procedures, equipment, and safety precautions for preserving and collecting legal evidence at hazardous materials/WMD incidents.		**IFSTA HMT, 1st Ed. Chapter 1** **J&B HMMTI, 4th Ed. Chapters 7, 10**	**Please refer to 7.3.5.1 above**	
7.4 Competencies - Implementing the Planned Response					
7.4.1 Performing Incident Command Duties					
Given the emergency response plan or standard					

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
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.					
7.4.1.1					
	Describe the duties of an assigned function in the hazardous materials branch or group within the incident command system.		**IFSTA HMT, 1st Ed. Chapter 2** **J&B HMMTI, 4th Ed. Chapter 3**	**5% of questions for all of 7.4.1 (7.4.1.1 to 7.4.1.2)**	
7.4.1.2					
	Identify the role of the hazardous materials technician during hazardous materials/WMD incidents.		**IFSTA HMT, 1st Ed. Chapter 2** **J&B HMMTI, 4th Ed. Chapter 1**	**Please refer to 7.4.1.1 above**	
7.4.2 Using Protective Clothing and Respiratory Protection					
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 the respiratory protection, and shall complete the following tasks:	(1) Describe three safety 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.	**IFSTA HMT, 1st Ed. Chapter 8** **J&B HMMTI, 4th Ed. Chapters 2, 8**	**1% of questions**	**Objective 9**
	(2) Describe three emergency procedures for personnel working in chemical-protective clothing.	(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.			
7.4.3 Performing Control Functions Identified in Incident Action Plan					

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill 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:	(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.	(1) Given a pressure vessel, select the material or equipment and demonstrate a method(s) to contain leaks from the following locations:	**IFSTA HMT, 1st Ed. Chapters 7, 8, 11** **J&B HMMTI, 4th Ed. Chapter 10**	**3% of questions**	**Objective 10, 11, 12, 13, 14.**
	(6) Identify three considerations for assessing a leak or spill inside a confined space without entering the area.	(a) Fusible plug			
	(7) Identify three safety considerations for product transfer operations.	(b) Fusible plug threads			
	(9) Identify the methods and precautions used to control a fire involving an MC-306/DOT-406 aluminum shell cargo tank.	(c) Side wall of cylinder			
	(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:	(d) Valve blowout			
	(a) Dome cover leak	(e) Valve gland			
	(b) Irregular-shaped hole	(f) Valve inlet threads			
	(c) Puncture	(g) Valve seat			
	(d) Split or tear	(h) Valve stem assembly blowout			
	(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.	(2) 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			
		(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			

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
		(b) Chime leak (c) Forklift puncture (d) Nail puncture (4) Given a 55 gal (208-L) drum and an overpack drum, demonstrate the ability to place the 55 gal (208-L) drum into the overpack drum using the following methods: (a) Rolling slide-in (b) Slide-in (c) Slip-over (8) Given an MC-306/DOT-406 cargo tank and a dome cover clamp, demonstrate the ability to install the clamp on the dome.			
7.4.4					
	Given MC-306/DOT-406, MC-307/DOD-407, MC-312/DOT-412, MC-331, and MC 338 cargo tanks, the hazardous materials technician shall identify the common methods for product transfer from each type of cargo tank.		**IFSTA HMT, 1st Ed. Chapter 11** **J&B HMMTI, 4th Ed. Chapter 10**	**1% of questions**	
7.4.5 Performing Decontamination Operations Identified in the Incident Action Plan					
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	**IFSTA HMT, 1st Ed. Chapter 9** **J&B HMMTI, 4th Ed. Chapter 11**		**Objective 15**
		(2) Technical decontamination operations involving ambulatory and nonambulatory victims			
		(3) Mass decontamination operations involving ambulatory and nonambulatory victims			
7.5 Competencies - Evaluating Progress					
7.5.1 Evaluating the Effectiveness of the Control Functions					
		Given scenarios involving hazardous materials/WMD incidents and the incident action	**IFSTA HMT, 1st Ed. Chapter 2**		**Objective 16**

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
		plan, the hazardous materials technician shall evaluate the effectiveness of any control functions identified in the plan of action.	**J&B HMMTI, 4th Ed. Chapter 10**		
7.5.2 Evaluating the Effectiveness of the Decontamination Process					
		Given an incident action plan for a scenario involving a hazardous materials/WMD incident, the hazardous materials technician shall evaluate the effectiveness of any decontamination procedures identified in the incident action plan.	**IFSTA HMT, 1st Ed. Chapter 9** **J&B HMMTI, 4th Ed. Chapter 11**		**Objective 17**
7.6 Competencies - Terminating the Incident					
7.6.1 Assisting in the Debriefing					
Given a scenario involving a hazardous materials/WMD incident, the hazardous materials technician shall participate in the debriefing of the incident by completing the following requirements:	(1) Describe three components of an effective debriefing		**IFSTA HMT, 1st Ed. Chapter 12** **J&B HMMTI, 4th Ed. Chapter 12**	**1% of questions**	
	(2) Describe the key topics of an effective debriefing				
	(3) Describe when a debriefing should take place				
	(4) Describe who should be involved in a debriefing				
7.6.2 Assisting in the Incident Critique					
Given a scenario involving a hazardous materials/WMD incident, the hazardous materials technician shall provide operational observations of the activities that were performed in the hot and warm zones during the incident and shall complete the following tasks:	(1) Describe three components of an effective critique.		**IFSTA HMT, 1st Ed. Chapter 12** **J&B HMMTI, 4th Ed. Chapter 12**	**1% of questions**	
	(2) Describe who should be involved in a critique.				
	(3) Describe why an effective critique is necessary after a hazardous materials/WMD incident.				
	(4) Describe which written documents should be prepared as a result of the critique.				

NFPA Objective	Requisite Knowledge	Requisite Skills	Suggested Readings	Knowledge Test Weighting	Skill Objective #
7.6.3 Reporting and Documenting the Incident					
Given a scenario involving a hazardous materials/WMD incident, the hazardous materials technician shall complete reporting and documentation as required by the AHJ by completing the following requirements:	(1) Identify the reports and supporting documentation required by the emergency response plan or standard operating procedures	(2) Demonstrate completion of the reports and supporting documentation	**IFSTA HMT, 1st Ed. Chapters 2, 5, 8, 12** **J&B HMMTI, 4th Ed. Chapters 2, 12**	**1% of questions**	**Objective 18**
	(3) Describe the importance of personnel exposure records				
	(4) Describe the importance of debriefing records				
	(5) Describe the importance of critique records				
	(6) Identify the steps in keeping an activity log and exposure records				
	(7) Identify the steps to be taken in compiling incident reports that meet federal, state, local, and organizational requirements				
	(8) Identify the requirements for compiling hot zone entry and exit logs				
	(9) Identify the requirements for compiling personal protective equipment logs				
	(10) Identify the requirements for filing documents and maintaining records				