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**(Revised 3/16/09)**

NFPA Standard 1001 - 2008 Edition

NFPA Standard 472 – 2008 Edition

# FIRE FIGHTER I CERTIFICATION TEST DOCUMENTATION BOOKLET

MSU Fire Services Training School

750 6<sup>th</sup> Street Southwest – Suite 205

Great Falls MT 59404-3297

Phone: (406) 761-7885

Fax: (406) 268-3735

**Website:** <http://www.montana.edu/wwwfire>

*This certification process is accredited by:*



*International Fire Service Accreditation Congress (IFSAC)  
and  
National Board on Fire Service Professional Qualifications (NPQS)*



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The Candidate is required to provide a number of documents with this Application. These documents should be attached to the page where they are requested. In organizations where more than one Candidate is applying for certification, the Candidate or organization may elect to provide the FTS with a "master notebook" containing copies of the organization's procedures referenced in this document. An asterisk (\*) is located adjacent to the documentation which is to be included within the "master notebook" or this Workbook.

**Fitness Requirements**

The signature of the chief of the Fire Service Organization is evidence to FSTS that the candidate has met local requirements with regard to good physical and mental condition and has a background indicating good moral character. The local chief should ensure that the candidate has an appropriate background and physical and mental condition prior to beginning this test. NFPA 1582 (*Medical Requirements for Fire Fighters*) is recommended for use by local authorities in assessing the physical and medical evaluation of candidates.

\_\_\_\_\_  
Chief Officer's Signature \_\_\_\_\_  
Date

**Facilities and Equipment Compliance:**

The signature of the chief of the Fire Service Organization is evidence to FSTS that the facilities and equipment used for testing are in compliance with applicable NFPA Standards.

\_\_\_\_\_  
Chief Officer's Signature \_\_\_\_\_  
Date

**Signature Verification:**

For the purpose of signature verification to sign off in this test booklet I certify my signature as:

<b>Signed:</b>	<b>Printed Name:</b>
_____	_____
_____	_____
_____	_____

If you have questions, contact the FSTS at (406) 761-7885 or 1-800-556-8858 during office hours, or any of the following representatives:

- |                |                |                |
|----------------|----------------|----------------|
| Ed Burlingame  | (406) 249-0745 | Columbia Falls |
| Jason Caughey  | (406) 781-6375 | Great Falls    |
| Brian Crandell | (406) 585-1103 | Bozeman        |
| Dave Mason     | (406) 461-0570 | Helena         |
| Tom McIsaac    | (406) 696-0571 | Billings       |
| Steve Harada   | (406) 868-1178 | Wolf Point     |
| Terry Larson   | (406) 670-8858 | Billings       |
| Craig Jeppson  | (406) 498-5444 | Huson          |
| Butch Weedon   | (406) 788-0222 | Great Falls    |

**Upon Completion of the Test, first make a copy for your records, then give to an FTS Staff Member OR send to FTS via certified mail. FSTS Address: MSU Fire Services Training School - Certification Program, 750 6<sup>th</sup> Street SW–Ste 205, Great Falls, Montana 59404-3297**

**Definitions and Acronyms** - The following definitions and acronyms for the terms indicated are intended for use with the Certification Program.

Approved - Acceptable to the FTS or their authorized representative.

Authority having jurisdiction - Fire Training School (FTS).

Candidate - The person who has made application for certification.

Define - To describe the basic qualities and principles.

Demonstrate - To show by actual use or simulation.

EAP - Employee Assistance Program

Fire company - Subpart of FSO to which an individual is assigned.

Fire department - An agency of government charged with primary fire protection responsibility within a city, county, reservation or district.

FSO - Fire service organization.

FSTS Website – <http://www.montana.edu/wwwfire>

Identify - To physically select, indicate, or explain verbally or in writing, using standard terms recognized by the fire service.

IMS - Incident Management System

May - The term is used to state a permissive use or an alternative method to a specified requirement.

Objective - A goal that is achieved through the attainment of a skill, knowledge, or both, which can be observed or measured.

Qualified - Having satisfactorily completed the requirements of the objectives.

PAR - Personnel Accountability Report

PASS - Personal Alert Safety System

Safely - To perform the objective without unreasonable risk or injury to self, others or equipment.

Shall - The term indicates a mandatory requirement.

Swiftly - The time, as determined by the qualified evaluator or FTS that it takes to perform the objective satisfactorily.

Technique - The systematic procedure by which a task is accomplished.

With competence - Possessing the knowledge, skill, and judgment needed to perform indicated objectives satisfactorily.

# Fire Fighter I - Locally Tested Portion Administered by Candidate's Fire Chief

## 5.1 General.

**5.1.1 General Knowledge Requirements.** (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapters 1,2,7,18; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 1, 2, 9)

### **Describe the organization of the fire department.**

Candidate will provide a written narrative describing the operations and administrative staffing and duties of their Fire Service Organization (FSO).\* Resource: Your FSO Leadership

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

### **Explain the Fire Fighter I's role as a member of the organization.**

Candidate will provide a written narrative describing the role of fire fighter in their FSO.\*  
Resource: Your FSO Leadership

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

### **Explain the mission of the fire service and of the local fire department.**

Candidate will provide a narrative describing the mission of their FSO.\* Resource: Your FSO Leadership

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

### **Explain the function of a standard operating procedure.**

Candidate will provide a written narrative explaining the function of a standard operating procedure.  
(Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Edition, p. 33-34, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed. p6-7)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**Explain fire department rules and regulations that apply to the Fire Fighter I.**

Candidate will provide a written narrative which explains the rules and regulations that directly affect the Candidate. (The rules and regulations must, at a minimum, include the areas of duties and responsibilities, evaluation, and discipline.\*) Resource: Your FSO Leadership

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**Explain the role of other agencies that may respond to emergencies.**

Candidate will provide a written narrative explaining the role of EMS, law enforcement and other fire agencies that may respond to emergencies. Resource: Your FSO Leadership

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**Describe the aspects of a member assistance program.**

Candidate will provide a written narrative explaining the aspects of a member assistance program. Resource: Local EAP or EAP information packet from FTS

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**Describe the responsibilities of a fire fighter as required by NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and adopted by the Candidate's FSO.**

Candidate has been provided with a written copy of the FSO's responsibilities of fire fighters as required by NFPA 1500 and will provide a written narrative describing those responsibilities.

(Resource: NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and leadership or procedures of FSO; IFSTA ESSENTIALS, 5<sup>th</sup> Ed., p26; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed. Chapter 2)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**Ropes and Knots**

(Resource: IFSTA ESSENTIALS 5th Ed. Chapter 7; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed. Chapter 9)

Explain the primary usage of each of the following:

1) bowline \_\_\_\_\_

2) clove hitch \_\_\_\_\_

3) figure eight on a bight \_\_\_\_\_

4) half hitch \_\_\_\_\_

5) becket or sheet bend \_\_\_\_\_

6) safety knot \_\_\_\_\_

Given each of the following situations, describe the types of knots to use:

Hoist a 14’ roof ladder to a third floor roof :

\_\_\_\_\_

To hoist a Pike Pole to a roof : \_\_\_\_\_

Signed \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

**Distinguish between life safety and utility ropes.**

Candidate will provide a written narrative explaining the characteristics and uses of life safety and utility ropes. (Resource: IFSTA Essentials, 5<sup>th</sup> Edition, p. 264-265, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed. p. 239-240)

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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signed \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

Candidate will provide a written explanation of the reasons for placing a rope out of service.

(Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Edition, p. 269-270; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed. p. 245- 247)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signed \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

Given the proper size and amount of rope the Candidate has demonstrated each of the following:  
(Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Edition, p. 275-278; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed. p. 250-257)

**Bowline:**

Signed \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

**Clove hitch:**

Signed \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

**Figure of Eight on the Bight:**

Signed \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

**Becket or Sheet Bend:**

Signed \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

**Safety Knot:**

Signed \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

Candidate has demonstrated tying approved knot and hoisting tool at least 10 feet.

(Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Edition, p. 279-300; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed. p. 260-269)

Signed \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

Candidate has demonstrated using a rope to tie ladders, hose and other objects to secure them.

(Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Edition or manufacturer's instructions, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, p 252-253, 255)

Signed \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

**Reference Material**

Candidate has demonstrated the ability to locate information in departmental documents and standard or code materials. Where is reference material found at the station?

\_\_\_\_\_

Signed \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

**5.2 Fire Department Communications.**

5.2.1 Initiate the response to a reported emergency, given the report of an emergency, fire department standard operating procedures, and communications equipment, so that all necessary information is obtained, communications equipment is operated correctly, and the information is promptly and accurately relayed to the dispatch center. (Resource: IFSTA ESSENTIALS, 5th Ed Chapter 19 p 925-955 NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed Chapter 3, p 76-101)

Candidate has initiated the response to a reported emergency.

Signed \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

5.2.2 Receive a business or personal telephone call, given a fire department business phone, so that procedures for answering the phone are used and the caller's information is relayed. (Resource: IFSTA ESSENTIALS, 5th Ed Chapter 19, p 9336-937; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed. p.98)  
Candidate has demonstrated receiving a business or personal telephone call.

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

### 5.3 Fireground Operations.

5.3.7 Attack a passenger vehicle fire operating as a member of a team, given personal protective equipment, attack line, and hand tools, so that hazards are avoided, leaking flammable liquids are identified and controlled, protection from flash fires is maintained, all vehicle compartments are overhauled, and the fire is extinguished. (Resource: IFSTA ESSENTIALS 5th Ed p 796-799; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>ND</sup> Ed. p. 630-632)

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

5.3.8 Extinguish fires in exterior Class A materials, given fires in stacked or piled and small unattached structures or storage containers that can be fought from the exterior, attack lines, hand tools and master stream devices, and an assignment, so that exposures are protected, the spread of fire is stopped, collapse hazards are avoided, water application is effective, the fire is extinguished, and signs of the origin area(s) and arson are preserved. (Resource: IFSTA ESSENTIALS 5<sup>th</sup> Ed. p 799; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS 2<sup>nd</sup> Ed, p. 629)

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

5.3.10 Attack an interior structure fire operating as a member of a team, given an attack line, ladders when needed, personal protective equipment, tools, and an assignment, so that team integrity is maintained, the attack line is deployed for advancement, ladders are correctly placed when used, access is gained into the fire area, effective water application practices are used, the fire is approached correctly, attack techniques facilitate suppression given the level of the fire, hidden fires are located and controlled, the correct body posture is maintained, hazards are recognized and managed, and the fire is brought under control. (Resource: IFSTA ESSENTIALS 5<sup>th</sup> Ed. p 793; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed. p. 617-628)

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

5.3.13 Overhaul a fire scene, given personal protective equipment, attack line, hand tools, a flashlight, and an assignment, so that structural integrity is not compromised, all hidden fires are discovered, fire cause evidence is preserved, and the fire is extinguished. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed. pg 881-886; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed. p. 574-579)

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

5.3.14 Conserve property as a member of a team, given salvage tools and equipment and an assignment, so that the building and its contents are protected from further damage. (Resource: IFSTA ESSENTIALS 5<sup>th</sup> Ed. p 867-880; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed. p 559 – 570)

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

5.3.15 Connect a fire department pumper to a water supply as a member of a team, given supply or intake hose, hose tools, and a fire hydrant or static water source, so that connections are tight and water flow is unobstructed. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed. p 665-671; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed. p 487-498)

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

5.3.16 Extinguish incipient Class A, Class B, and Class C fires, given a selection of portable fire extinguishers, so that the correct extinguisher is chosen, the fire is completely extinguished, and correct extinguisher-handling techniques are followed. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed. p 246-251; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed p. 182-183,187-191,197-207)

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

5.3.17 Illuminate the emergency scene, given fire service electrical equipment and an assignment, so that designated areas are illuminated and all equipment is operated within the manufacturer's listed safety precautions. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed. p. 330-334, 385-386; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed. p. 555-558)

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

5.3.19 Combat a ground cover fire operating as a member of a team, given protective clothing, SCBA if needed, hose lines, extinguishers or hand tools, and an assignment, so that threats to property are reported, threats to personal safety are recognized, retreat is quickly accomplished when warranted, and the assignment is completed. (Resource: IFSTA ESSENTIALS 5<sup>th</sup> Ed., p 805-806; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed. p. 604-608)

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

### 5.5 Prevention, Preparedness, and Maintenance

Perform a fire safety survey in a private dwelling, given survey forms and procedures, so that fire and life-safety hazards are identified, recommendations for their correction are made to the occupant, and unresolved issues are referred to the proper authority. **Attach a copy of the completed survey to the inside front cover of this certification Test Documentation Booklet.** (Resource: IFSTA ESSENTIALS 5<sup>th</sup> Ed., p 971-995; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., p. 918-919)

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Present fire safety information to station visitors or small groups, given prepared materials, so that all information is presented, the information is accurate, and questions are answered or referred. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed., p 991-992, 998; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed. p. 928-930)

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

5.5.1 Clean and check ladders, ventilation equipment, self-contained breathing apparatus (SCBA), ropes, salvage equipment, and hand tools, given cleaning tools, cleaning supplies, and an assignment, so that equipment is clean and maintained according to manufacturer's or departmental guidelines, maintenance is recorded, and equipment is placed in a ready state or reported otherwise. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed., p 479-481,510,168,206,222 271-723,286,873-874,888, 411,453; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed. p. 64-72,231,245-248,331-334,558-568)

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

5.5.2 Clean, inspect, and return fire hose to service, given washing equipment, water, detergent, tools, and replacement gaskets, so that damage is noted and corrected, the hose is clean, and the equipment is placed in a ready state for service. Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, 634-637; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed.. p. 469,474-479

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

## Hazardous Materials Awareness and Operations

(Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapters 22 and 23, p1058 -1288; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 27-34, p772-912)

**Website: <http://www.montana.edu/wwwfire>**

**4.1.2.2** When first on the scene of an emergency involving hazardous materials/WMD, the first responder at the awareness level shall be able to perform the following tasks:

(Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22 p1219-21; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p809-810, 816-819)

(1) Analyze the incident to determine both the hazardous materials/WMD present and the basic hazard and response information for each hazardous material/WMD by completing the following tasks:

(a) Detect the presence of hazardous materials/WMD.

**Test each of the elements in this section by referring to the illustration or photo indicated on the Web. Go to the FSTS Home Page, click on Haz Mat Test Button.**

Indicate by placing a check in the appropriate space if hazardous materials are likely present at the scene. For each yes checked, in the space provided, list what clues make you think hazardous materials might be involved.

**Scene 1**      Yes \_\_\_      No \_\_\_

Clues:

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**Scene 2**      Yes \_\_\_      No \_\_\_

Clues:

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**Scene 3**      Yes \_\_\_      No \_\_\_

Clues:

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**Scene 4** Yes \_\_\_ No \_\_\_

Clues:

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(b) Survey a hazardous materials/WMD incident from a safe location to identify the name, UN/NA identification number, type placard or other distinctive marking applied for the hazardous materials/WMD involved. **(Refer to the photo indicated and list all the information which is available.)**

**Scene 5** Report of a leak from a tank truck

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Name	UN/NA #	Placard Type
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**Scene 6** This truck has just spilled its contents along a city street

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Name	UN/NA #	Placard Type
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**Scene 7** A stake bed truck has crashed and spilled several of these containers which are damaged and leaking.

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Name	UN/NA #	Placard Type
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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(c) Use the current edition of the Emergency Response Guide Book to determine:

**Scene 8** Which is the proper guide page? \_\_\_\_ For a large spill, how far should you first isolate in all direction? \_\_\_\_\_

**Scene 9** Which is the proper guide for the Hazardous Material involved in this fire incident? \_\_\_\_\_ If the material in this tank car is involved in a fire, what is the recommended isolation distance in all directions? \_\_\_\_\_

**Scene 10** This barrel is leaking liquid. What is indicated by the "P" after the Guide Number?

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(2) Implement actions consistent with the local emergency response plan, the organization's standard operating procedures, and the current edition of the Emergency Response Guidebook by initiating and completing the following tasks: (for Scene 10)

(a) List the protective actions to be taken

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(b) Who would you notify?

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

#### 4.2.1 Detecting the Presence of Hazardous Materials

(Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1114-1203; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

(1)\* Identify the definitions of both hazardous materials/WMD. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1059; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

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The candidate has written out the definition of both hazardous materials/WMD above.

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(2) Identify the UN/DOT hazard classes and divisions of hazardous materials/WMD and identify common examples of materials in each hazard class or division, and their primary hazard.

(Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22 p1137-1154; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p809-822)

#### Class 1

Division 1.1 \_\_\_\_\_ Example \_\_\_\_\_  
Primary hazard \_\_\_\_\_

Division 1.2 \_\_\_\_\_ Example \_\_\_\_\_  
Primary hazard \_\_\_\_\_

Division 1.3 \_\_\_\_\_ Example \_\_\_\_\_  
Primary hazard \_\_\_\_\_

Division 1.4 \_\_\_\_\_ Example \_\_\_\_\_  
Primary hazard \_\_\_\_\_

Division 1.5 \_\_\_\_\_ Example \_\_\_\_\_  
Primary hazard \_\_\_\_\_

Division 1.6 \_\_\_\_\_ Example \_\_\_\_\_  
Primary hazard \_\_\_\_\_

**Class 2** \_\_\_\_\_

Division 2.1 \_\_\_\_\_ Example \_\_\_\_\_  
Primary hazard \_\_\_\_\_

Division 2.2 \_\_\_\_\_ Example \_\_\_\_\_  
Primary hazard \_\_\_\_\_

Division 2.3 \_\_\_\_\_ Example \_\_\_\_\_  
Primary hazard \_\_\_\_\_

**Class 3** \_\_\_\_\_ Example \_\_\_\_\_  
Primary hazard \_\_\_\_\_

**Class 4** \_\_\_\_\_

Division 4.1 \_\_\_\_\_ Example \_\_\_\_\_  
Primary hazard \_\_\_\_\_

Division 4.2 \_\_\_\_\_ Example \_\_\_\_\_  
Primary hazard \_\_\_\_\_

Division 4.3 \_\_\_\_\_ Example \_\_\_\_\_  
Primary hazard \_\_\_\_\_

**Class 5** \_\_\_\_\_

Division 5.1 \_\_\_\_\_ Example \_\_\_\_\_  
Primary hazard \_\_\_\_\_

Division 5.2 \_\_\_\_\_ Example \_\_\_\_\_  
Primary hazard \_\_\_\_\_

**Class 6** \_\_\_\_\_

Division 6.1 \_\_\_\_\_ Example \_\_\_\_\_  
Primary hazard \_\_\_\_\_

Division 6.2 \_\_\_\_\_ Example \_\_\_\_\_  
Primary hazard \_\_\_\_\_

**Class 7** \_\_\_\_\_ Example \_\_\_\_\_  
Primary hazard \_\_\_\_\_

**Class 8** \_\_\_\_\_ Example \_\_\_\_\_  
Primary hazard \_\_\_\_\_

**Class 9** \_\_\_\_\_ Example \_\_\_\_\_  
Primary hazard \_\_\_\_\_

**ORM-D** \_\_\_\_\_ Example \_\_\_\_\_  
Primary hazard \_\_\_\_\_

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(4) Identify the difference between hazardous materials/WMD incidents and other emergencies. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1059-1060; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(5) Identify typical occupancies and locations in your community where hazardous materials/WMD are manufactured, transported, stored, used, or disposed of. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1115-1117; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(6) Identify typical container shapes that can indicate the presence of hazardous materials/WMD. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1118-1137; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(7) Identify facility and transportation markings and colors that indicate hazardous materials/WMD, including the following: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1137-1166; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

(a) Transportation markings, including UN/NA identification number marks, marine pollutant mark, elevated temperature mark, commodity marking, and inhalation hazard mark (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1154; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

The candidate has toured jurisdiction and identified the below listed markings at the location indicated:

Facility markings & colors & location

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Transportation markings & colors & where observed

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(b) NFPA 704, Standard System for the Identification of the Hazards of Materials for Emergency Response, markings (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1159-1160; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

Draw the 704 Marking system and indicate the appropriate color of each diamond and the meaning of the color, symbol and number in same.

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(d) Special hazard communication markings for each hazard class

(Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1161-1162; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

The candidate has toured the jurisdiction and identified the below listed markings

Facility markings & colors

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Transportation markings & colors

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(e) Pipeline markings (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1163; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

The candidate has toured jurisdiction and identified the below listed markings for pipelines

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(f) Container markings

The candidate has toured the jurisdiction and identified the markings listed below: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1155-1166; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

Facility markings & colors

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Transportation markings & colors

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(9) Identify U.S. and Canadian placards and labels that indicate hazardous materials/WMD.

The candidate has toured the jurisdiction and identified the markings listed below.

(Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1137-1153; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

Facility markings & colors

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Transportation markings & colors

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(10) Identify the following basic information on material safety data sheets (MSDS) and shipping papers that indicates hazardous materials/WMD: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1170-1172; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

(a) Identify where to find MSDS. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1170; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(b) Identify entries on an MSDS that indicate the presence of hazardous materials. **(Refer to the MSDS download on the Hazardous Materials Awareness Testing section of the FSTS Home Page.)** List the name of the material and its flammable limits. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1170-1171; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(c) Identify the entries on shipping papers that indicate the presence of hazardous materials. **(Refer to the “Train 1” download on the Hazardous Materials Awareness Testing section of the FSTS Home Page.)** List all the hazardous materials being carried on this train. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1168; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(d) Identify the name of the shipping papers found in transportation (air, highway, rail, and water) with the mode of transportation. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1168; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

Truck \_\_\_\_\_

Train \_\_\_\_\_

Aircraft \_\_\_\_\_

Ship \_\_\_\_\_

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(e) Identify the person responsible for having the shipping papers in each mode of transportation. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1168; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

Truck \_\_\_\_\_

Train \_\_\_\_\_

Aircraft \_\_\_\_\_

Ship \_\_\_\_\_

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(f) Identify where the shipping papers are found in each mode of transportation. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1168; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

Truck \_\_\_\_\_

Train \_\_\_\_\_

Aircraft \_\_\_\_\_

Ship \_\_\_\_\_

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(g) Identify where the papers can be found in an emergency in each mode of transportation. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1168; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

Truck \_\_\_\_\_

Train \_\_\_\_\_

Aircraft \_\_\_\_\_

Ship \_\_\_\_\_

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(11)\* Identify examples of clues (other than occupancy/location, container shape, markings/color, placards/labels, MSDS, and shipping papers) that use the senses of sight, sound, and odor to indicate hazardous materials/WMD. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1179-1181; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(12) Describe the limitations of using the senses in determining the presence or absence of hazardous materials/WMD. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1179; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(13)\* Identify at least four types of locations that could become targets for criminal or terrorist activity using hazardous materials/WMD. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1116-1117; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(14)\* Describe the difference between a chemical and a biological incident. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1185-1190; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(15)\* Identify at least four indicators of possible criminal or terrorist activity involving chemical agents. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1185-1189; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(16)\* Identify at least four indicators of possible criminal or terrorist activity involving biological agents. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1188-1190; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(17)\* Identify at least four indicators of possible criminal or terrorist activity involving radiological agents. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1190; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(18)\* Identify at least four indicators of possible criminal or terrorist activity involving illicit laboratories (clandestine laboratories, weapons lab, ricin lab). (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1191-1201; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(19)\* Identify at least four indicators of possible criminal or terrorist activity involving explosives. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1190-1191; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(20)\* Identify at least four indicators of secondary devices. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1201-1203; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 809-822)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**4.2.2 Surveying the Hazardous Materials/WMD Incidents**

(Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1114-1203; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, pg 816-819)

(1) Identify difficulties encountered in determining the specific names of hazardous materials/WMD in both facilities and transportation. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1115; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, pg 816-819)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(2) Identify sources for obtaining the names of, UN/NA identification numbers for, or types of placard associated with hazardous materials/WMD in transportation when shipping documents are not available. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1138-1155 NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, pg 816-819)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(3) Identify sources for obtaining the names of hazardous materials/WMD in a facility. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1166 NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, pg 816-819)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**4.2.3 Collecting Hazard Information**

(Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1172, 1174-1179; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, pg 816-818)

(1)\* Identify the three methods for determining the guidebook page for a hazardous material/WMD. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1172; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, pg 816-818)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(2) Identify the two general types of hazards found on each guide page. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1176; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, pg 816-818)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

#### 4.4.1 Initiating Protective Actions

(1) Identify the location of both the local emergency response plan and/or the organization's standard operating procedures. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1215; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, pg 787-800,843-855,867-869)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(2) Identify the role of the first responder at the awareness level during hazardous materials/WMD incidents. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1060; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, pg 787-800,843-855,867-869)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(3) Identify the following basic precautions to be taken to protect themselves and others in a hazardous materials/WMD incident:

(a) Identify the precautions necessary when providing emergency medical care to victims of hazardous materials/WMD incidents. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapters 22, 23, p1060-1061, 1237-

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(b) Identify typical ignition sources found at the scenes of hazardous materials/WMD incidents.

(Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1223, 1256-1261; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, pg 787-800,843-855,867-869)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(c)\* Identify the ways hazardous materials/WMD are harmful to people, the environment, and property at hazardous materials/WMD incidents. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22 p1084-1102; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, pg 787-800,843-855,867-869)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(d)\* Identify the general routes of entry for human exposure to hazardous materials/WMD for each hazard class. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1091; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, pg 787-800,843-855,867-869)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(4)\* Given the identity of various hazardous materials/WMD (name, UN/NA identification number, or type placard), identify the following response information: Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1176-1179; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, pg 787-800,843-855,867-869

(a) Emergency action (fire, spill, or leak and first aid Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22 p1176; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, pg 787-800,843-855,867-869, Emergency Response Guidebook.

**(Refer to the FSTS Home Page again, click Training, Academies, Testing. Refer to Scene 11. The vehicle is placarded with Scene 11a.)**

Fire \_\_\_\_\_

Broken package leakage \_\_\_\_\_

First aid \_\_\_\_\_

For UN # 1045 (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1176-1177; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, pg 787-800,843-855,867-869)

(b) Personal protective equipment necessary

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

For “Chlorine” (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1176-1179; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, pg 787-800,843-855,867-869)

(c) Initial isolation and protective action distances

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(5) Given the name of a hazardous material, identify the recommended personal protective equipment from the following list:

(a) Street clothing and work uniforms (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22 p1077-1078, 1176-1177; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, pg 787-800,843-855,867-869)

(b) Structural fire-fighting protective clothing (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22 p1069-1070, 1176-1177; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, pg 787-800,843-855,867-869)

(c) Positive pressure self-contained breathing apparatus (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1062-1063, 1176-1177; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, p787-800,843-855,867-869)

(d) Chemical-protective clothing and equipment (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1071-1072, 1176-1177; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, p 787-800,843-855,867-869)

Indicate the letter of the proper personal protective clothing for each of the following:

Gasoline \_\_\_\_\_ Propane \_\_\_\_\_  
Anhydrous Ammonia \_\_\_\_\_ Nitric Acid \_\_\_\_\_

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(6) Identify the definitions for each of the following protective actions: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1227-1229, 1234-1237; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, p 787-800,843-855,867-869)

(a) Isolation of the hazard area and denial of entry Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1227-1229; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, p 787-800,843-855,867-869

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(b) Evacuation (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1234-1236; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, p 787-800,843-855,867-869)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(c)\* Sheltering in-place protection (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1236-1237; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, p 787-800,843-855,867-869)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(7) Identify the shapes of recommended initial isolation and protective action zones. Draw an illustration below and label. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1176-1179; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, p 787-800,843-855,867-869)

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(8) Describe the difference between small and large spills as found in the table of initial isolation and protective action distances in the DOT Emergency Response Guidebook. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1177; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, p 787-800,843-855,867-869)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(9) Identify the circumstances under which the following distances are used at hazardous materials/WMD incidents: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1176-1179; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, p 787-800,843-855,867-869)

(a) Table of initial isolation and protective action distances. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1176-1179; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, p 787-800,843-855,867-869)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(b) Isolation distances in the numbered guides. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1176-1179; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, p 787-800,843-855,867-869)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

- (10) Describe the difference between the isolation distances in the orange-bordered guide pages and the protective action distances in the green-bordered pages in the ERG. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1176-1179; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, p 787-800,843-855,867-869)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

- (11) Identify the techniques used to isolate the hazard area and deny entry to unauthorized persons at hazardous materials/WMD incidents: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1227; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, p 787-800,843-855,867-869)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

- (12)\* Identify at least four specific actions necessary when an incident is suspected to involve criminal or terrorist activity. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 18,23 p909-918, 1270; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,31,32, p 787-800,843-855,867-869)

A.) \_\_\_\_\_

B.) \_\_\_\_\_

C.) \_\_\_\_\_

D.) \_\_\_\_\_

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

#### 4.4.2 Initiating the Notification Process.

Given either a facility or transportation scenario involving hazardous materials/WMD, regardless of the presence of criminal or terrorist activities, the first responder at the awareness level shall identify the initial notifications to be made and how to make them, consistent with the local emergency

response plan or the organization's standard operating procedures. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1230-1231; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 30, p 829-830)

List the initial notifications to be made and how to make them:

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

## 5.2 Competencies – Analyzing the Incident

**5.2.1 Surveying Hazardous Materials/WMD Incidents.** Given scenarios involving hazardous materials/WMD incidents, the operations level responder shall survey the incident to identify the containers and materials involved, determine whether hazardous materials/WMD have been released, and evaluate the surrounding conditions and shall meet the following requirements:

(Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22,23 p1109-1113, 1118-1137, 1218-1221; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p809-822) **{Use pictures under 5.2 Competencies on FSTS website. Match letter identified with picture to standard.}**

**5.2.1.1** Given three examples each of liquid, gas, and solid hazardous material or WMD, including various hazard classes, operations level personnel shall identify the general shapes of containers in which the hazardous materials/WMD are typically found. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1102, 1118-1137; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29, p 810-813)

- 1) Gas: \_\_\_\_\_
- 2) Liquid: \_\_\_\_\_
- 3) Solid: \_\_\_\_\_

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**5.2.1.1.1** Given examples of the following tank cars, the operations level responder shall identify each tank car by type, as follows: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1119, 1123-1124; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p813-815) **{Use pictures under 5.2 Competencies on FSTS website. Match letter identified with picture to standard.}**

(1) Cryogenic liquid tank cars (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1119, 1124; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p813-815)

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(2) Nonpressure tank cars (general service or low pressure cars) (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1119, 1123; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p813-815)

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(3) Pressure tank cars (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1119, 1124; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p813-815)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**5.2.1.1.2** Given examples of the following intermodal tank cars, the operations level responder shall identify each tank car by type, as follows: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1119, 1130-1131; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p813-815) **{Use pictures under 5.2 Competencies on FSTS website. Match letter identified with picture to standard.}**

(1) Nonpressure intermodal tanks (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1119, 1130; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p813-815)

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(2) Pressure intermodal tanks (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1119, 1130; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p813-815)

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(3) Specialized intermodal tanks, including the following: Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1119, 1130; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p813-815

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(a) Cryogenic intermodal tanks (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1119, 1130; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p813-815)

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(b) Tube modules (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1119, 1130; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p813-815)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**5.2.1.1.3** Given examples of the following cargo tanks, the operations level responder shall identify each cargo tank by type, as follows: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1119, 1127-1129; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p813-815) **{Use pictures under 5.2 Competencies on FSTS website. Match letter identified with picture to standard.}**

(1) Compressed gas tube trailers (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1119, 1129; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p813-815)

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(2) Corrosive liquid tanks (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1119, 1127; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p813-815)

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(3) Cryogenic liquid tanks (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1119, 1128; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p813-815)

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(4) Dry bulk cargo tanks (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1119, 1129; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p813-815)

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(5) High pressure tanks (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1119, 1128; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p813-815)

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(6) Low pressure chemical tanks (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1119, 1127; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p813-815)

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(7) Nonpressure liquid tanks (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1119, 1127; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p813-815)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**5.2.1.1.4** Given examples of the following storage tanks, the operations level responder shall identify each tank by type, as follows: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1118-1123; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p813-815) **{Use pictures under 5.2 Competencies on FSTS website. Match letter identified with picture to standard.}**

(1) Cryogenic liquid tank: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1119, 1123; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p813-815)

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(2) Nonpressure tank: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1118-1121; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p813-815)

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(3) Pressure tank: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1119, 1122; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p813-815)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**5.2.1.1.5** Given examples of the following nonbulk packaging, the operations level responder shall identify each package by type, as follows: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1133-1135; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p810-813) **{Use pictures under 5.2 Competencies on FSTS website. Match letter identified with picture to standard.}**

(1) Bags (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1133-34; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p810-813)

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(2) Carboys (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1133-34; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p810-813)

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(3) Cylinders (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1133-34; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p810-813)

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(4) Drums (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1133, 1135; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p810-813)

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(5) Dewar flask (cryogenic liquids) (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1133, 1135; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p810-813)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**5.2.1.1.6\*** Given examples below of the following radioactive material packages, the operations level responder shall identify the characteristics of each container or package by type, as follows:  
(Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1133, 1136-1137, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p820-821)

(1) Excepted (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1133, 1136, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p820-821)

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(2) Industrial (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1133, 1136, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29 p820-821)

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(3) Type A (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1133, 1136, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29 p820-821)

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(4) Type B (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1133, 1136, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29 p820-821)

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(5) Type C (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1133, 1137, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p820-821)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**5.2.1.2.2** Given examples of facility containers, the operations level responder shall identify the markings indicating container size, product contained, and/or site identification numbers. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1158, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 29 p810-820) **{Use pictures on FSTS website assigned to 5.2.1.2.2 standard.} Using the example on the FSTS web site:**

List the products present:

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Are there any visible markings to: ID location? YES NO

Container size? YES NO

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**5.2.1.3.2** Given a pesticide label, the operations level responder shall identify each of the following pieces of information, then match the piece of information to its significance in surveying hazardous materials incidents: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1163, 1166, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p812) **{Use pesticide form on FSTS website.}**

(1) Active ingredient (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1163, 1166, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p812)

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(2) Hazard statement (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1163, 1166, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p812)

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(3) Name of pesticide (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1163, 1166, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p812)

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(4) Pest control product EPA or (PCP) number (in Canada) (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1163, 1166, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p812)

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(5) Precautionary statement (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1163, 1166, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p812)

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(6) Signal word (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1163, 1166, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p812)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**5.2.1.3.3** Given a label for a radioactive material, the operations level responder shall identify the type or category of label, contents, activity, transport index, and criticality safety index as applicable.

(Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1152, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p820-821) {Refer to Label on FSTS website.}

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**5.2.1.4\*** The operations level responder shall identify and list the surrounding conditions that should be noted when a hazardous materials/WMD incident is surveyed. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1218-1221, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p816-820)

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**5.2.1.5** The operations level responder shall give examples of ways to verify information obtained from the survey of a hazardous materials/WMD incident. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1166-1184, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p816-820)

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**5.2.1.6\*** The operations level responder shall identify at least three additional hazards that could be associated with an incident involving terrorist or criminal activities. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1184, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 29 p821-822)

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**5.2.2 Collecting Hazard and Response Information.** Given scenarios involving known hazardous materials/WMD, the operations level responder shall collect hazard and response information using MSDS, CHEMTREC/CANUTEC/SETIQ, governmental authorities, and shippers and manufacturers and shall meet the following requirements: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1137-1146, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

(1) Match the definitions associated with the UN/DOT hazard classes and divisions of hazardous materials/WMD, including refrigerated liquefied gases and cryogenic liquids, with the class or division. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1137-1146, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

Class 1 \_\_\_\_\_

Division 1.1 \_\_\_\_\_

a. radioactive materials

b. Toxic and infectious substances

Division 1.2	_____	c.	oxidizing substances and organic peroxides
Division 1.3	_____	d.	flammable solids;spontaneously combustible materials;and dangerous when wet
Division 1.4	_____	e.	flammable liquids
Division 1.5	_____	f.	gases
Division 1.6	_____	g.	explosives
Class 2	_____	h.	corrosive substances
Division 2.1	_____	i.	miscellaneous
Division 2.2	_____	j.	infectious substances
Division 2.3	_____	k.	toxic substances
Class 3	_____	l.	mass explosion hazard
Class 4	_____	m.	projection hazard
Division 4.1	_____	o.	Non-flammable, non-toxic gas
Division 4.2	_____	p.	toxic gases
Division 4.3	_____	q.	oxidizing substances
Class 5	_____	r.	organic peroxides
Division 5.1	_____	s.	explosives with predominately fire hazard
Division 5.2	_____	t.	no significant blast hazard
Class 6	_____	u.	very insensitive explosives with mass explosion hazard
Division 6.1	_____	v.	extremely insensitive articles
Division 6.2	_____	w.	flammable solids
Class 7	_____	x.	spontaneously combustible materials
Class 8	_____	y.	water reactive substances
Class 9	_____		

(2) Identify two ways to obtain an MSDS in an emergency. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1170, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

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(3) Using an MSDS for a specified material, identify the following hazard and response information:

Resource: (IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1170-1172, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820) { **Choose any MSDS on FSTS website.**}

(a) Physical and chemical characteristics (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1170-1172, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

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(b) Physical hazards of the material (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1170-1172, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

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(c) Health hazards of the material (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1170-1172, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

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(d) Signs and symptoms of exposure (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1170-1172, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

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(e) Routes of entry (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1170-1172, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

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(f) Permissible exposure limits (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1170-1172, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

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(g) Responsible party contact (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1170-1172, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

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(h) Precautions for safe handling (including hygiene practices, protective measures, and procedures for cleanup of spills and leaks) (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1170-1172, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

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(i) Applicable control measures, including personal protective equipment (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1170-1172, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

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(j) Emergency and first-aid procedures (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1170-1172, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(4) Identify the following: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1166-1167, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

(a) Type of assistance provided by CHEMTREC/CANUTEC/SETIQ and governmental authorities (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1166-1167, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

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(b) Procedure for contacting CHEMTREC/CANUTEC/SETIQ and governmental authorities (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1166-1167, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

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(c) Information to be furnished to CHEMTREC/CANUTEC/SETIQ and governmental authorities (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1166-1167, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(5) Identify two methods of contacting the manufacturer or shipper to obtain hazard and response information. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1166, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(6) Identify the type of assistance provided by governmental authorities with respect to criminal or terrorist activities involving the release or potential release of hazardous materials/WMD. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1231, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(7) Identify the procedure for contacting local, state, and federal authorities as specified in the emergency response plan and/or standard operating procedures. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1230-1231, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(8) \*Describe the properties and characteristics of the following: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1085-1088, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

(a) Alpha radiation (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1085, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

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(b) Beta radiation (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1086, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

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(c) Gamma radiation (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1086-1087, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

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(d) Neutron radiation (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1087-1088, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p793-794, 816-820)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**5.2.3\* Predicting the Likely Behavior of a Material and Its Container.** Given scenarios involving hazardous materials/ WMD incidents, each with a single hazardous material/WMD, the operations level responder shall predict the likely behavior of the material or agent and its container and shall meet the following requirements: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapters 22,23 p1100, 1102-1108, 1085-1087,1094, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

(1) Interpret the hazard and response information obtained from the current edition of the DOT Emergency Response Guidebook, MSDS, Niosh Guide, CHEMTREC/CANUTEC/SETIQ, governmental authorities, and shipper and manufacturer contacts, as follows:

(a) List the significance and impact on the behavior of the container and its contents for each chemical and physical properties listed below for both scenarios



ii. Exposure and contamination (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p11239, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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iii. Exposure and hazard (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p11239, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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iv. Infectious and contagious (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1100, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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v. Acute effects and chronic effects (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22 p1084, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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vi. Acute exposures and chronic exposures (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22 p1084, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(2)\*Identify three types of stress that can cause a container system to release its contents. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1109, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(3)\*Identify five ways in which containers can breach. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1109, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(4)\*Identify four ways in which containers can release their contents. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1109, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(5)\*Identify at least four dispersion patterns that can be created upon release of a hazardous material. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1110-1113, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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(6)\*Identify the time frames for estimating the duration that hazardous materials/WMD will present an exposure risk. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1113, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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(7)\*Identify the health and physical hazards that could cause harm. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22 p1084-1102, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(8)\*Identify the health hazards associated with the following terms:

(a) Alpha, beta, gamma and neutron radiation (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1085-1188, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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(b) Asphyxiant (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1090, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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(c)\*Carcinogen (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1094, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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(d) **Convulsant** (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1094, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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(e) **Corrosive** (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1094, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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(f) **Highly toxic** (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1094, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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(g) **Irritant** (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1094, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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(h) **Sensitizer, allergen** (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1099, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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(i) **Target organ effects** (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1091-92, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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(j) **Toxic** (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1091, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(9)\*Given the following, identify the corresponding UN/DOT hazard class and division:

(a) **Blood agents** (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1186, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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(b) Biological agents and biological toxins (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1151, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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(c) Choking agents (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1187, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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(d) Irritants (riot control agents) (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1187, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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(e) Nerve agents (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1186, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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(f) Radiological materials (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1186, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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(g) Vesicants (blister agents) (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1152, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800, 816)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

#### 5.2.4 Estimating the Potential Harm

Estimate the potential harm within the Hot Zone (endangered area) at a hazardous materials incident involving a MC-331 tank containing Chlorine: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed. Chapters 22,23, p1088-1090, 1166-1179, 1181-1184, 1109-1113, 1219-221, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>ND</sup> Ed., Chapters 28, 29 p787-800, 816)

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(1) Identify a resource for determining the size of an endangered area of a hazardous materials incident (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed., Chapters 22,23, p1166-1179, 120, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed. Chapters 28, 29 p787-800,816)

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(2) Given the dimensions of the endangered area and the surrounding conditions at a hazardous materials incident, estimate the number and type of exposures within that endangered area. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed., Chapter 23, p 1220, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28, 29, p 787-800,816) (NOTE: refer to table of isolation distances in ERG)

*Exercise: You respond to a MC-331 vessel that is overturned and is leaking on the interstate south of Great Falls. The tank is carrying Chlorine. Time of day is 1:00 p.m on July 7. Clear, sunny day expected. Temperature will be 85 degrees. Winds will be 5-10 mph and coming from the southwest.*

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(3) Identify resources available for determining the concentrations of a released hazardous material within an endangered area (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed., Chapter 22, p 1181-1184, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapters 28,29 p787-800,816)

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(4) Given the concentrations of the released material, identify the factors for determining the extent of physical, health, and safety hazards within the endangered area of a hazardous materials incident. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed., Chapter 22, 23 p1109-1113, 1219-1221, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, Chapters 28,29 p787-800,816)

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(5) Describe the impact that time, distance, and shielding have on exposure to radioactive materials incident. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed., Chapter 22, p1088-1090, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, Chapters 28, 29, p787-800,816)

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(6) Describe the prioritization of emergency medical care and removal of victims from the hazard area (Hot Zone) relative to exposure and contamination concerns.

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**5.3 Planning the Response.**

**5.3.1 Describing Response Objectives.** Given at least two scenarios involving hazardous materials/WMD incidents, the operations level responder shall describe the response objectives for each example and shall meet the following requirements: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22,23 p1201-1203, 1220, 1224,1260-1261 NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 30, p833-835)

**Scenario #1** At 08:00 are dispatched to a strong odor from the city water treatment plant. Upon arriving on scene you are contacted by the facility manager. He states that they were receiving there monthly load of chlorine when they encountered a leaky fitting. You notice a strong smell of chlorine and visually see a milky cloud inside the warehouse. The plant is border by a river and undeveloped land to the SW and commercial/retail adjacent to the North and East.

List resources that would be available for initial response in your jurisdiction

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(1) Determine the number of exposures that could be saved with the resources provided by the authority having jurisdiction. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23 p1220, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 30, p833-835)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(2) Describe the steps for determining response objectives. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23 p1224, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 30, p833-835)

List your response objectives:

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(3) Describe how to assess the risk to a responder for each hazard class in rescuing injured persons at a hazardous materials/WMD incident. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23 p1260-61, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 30, p833-835)

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What is the hazard in the scenario?

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**Scenario 2:**

A truck transporting flammable liquids has rolled on a two lane highway in a rural area. The container has breached and is actively burning. The driver is not visible and the nearest exposure is a farm house 300 feet down wind. There are no other visible exposures. The nearest water supply is a 5 acre farm pond a half mile away.

List resources that would be available for initial response in your jurisdiction

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(1) Determine the number of exposures that could be saved with the resources provided by the authority having jurisdiction. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23 p1220, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 30, p833-835)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(2) Describe the steps for determining response objectives. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23 p1224, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 30, p833-835)

List your response objectives:

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(3) Describe how to assess the risk to a responder for each hazard class in rescuing injured persons at a hazardous materials/WMD incident. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23 p1260-61, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 30, p833-835)

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What is the hazard in the scenario?

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**5.3.2 Identifying Action Options.**

(1) Using the scenarios from 5.3.1, identify the options to accomplish the identified response objectives

(Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23 p1226-1227, 1246-1247, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 30, p833-835) \

Scenario 1

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**Scenario 2**

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- (2) List factors considered when prioritizing patients involved in a hazardous materials incident

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Signed: \_\_\_\_\_ Date: \_\_\_/\_\_\_/\_\_\_

**5.3.3 Determining Suitability of Personal Protective Equipment**

Given the name of the hazardous material involved and the anticipated type of exposure, determine whether available personal protective equipment is appropriate for implementing a defensive option. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapters 22, 23 p1061-1072, 1246-1247, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 31, p843-855)

*Name of hazardous material is Hydro Chloric Acid*

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- (a) Identify the appropriate respiratory protection required for a given defensive option. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1061-1069, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 31, p843-855)

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- (b) Identify three types of respiratory protection and the advantages and limitations presented by the use of each at HazMat incidents. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1061-1069, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 31, p843-855)

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- (a) (b)Identify the required physical capabilities and limitations of personnel working in positive pressure self-contained breathing apparatus. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1061-1069, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 31, p843-855)

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- (1) Identify the appropriate personal protective clothing required for a given action option. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1069, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 31, p843-855)

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(a) Identify skin contact hazards encountered at HazMat/WMD incidents. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1069, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 31, p843-855)

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(b) Identify the purpose advantages, and limitations of the following level of protective clothing at HazMat/WMD incidents: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1069, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 31, p843-855)

(i) Structural fire fighting protective clothing:

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(ii) High temperature-protective clothing (proximity gear):

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(iii) Chemical-protective clothing: \_\_\_\_\_

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(iv) Liquid splash protective clothing: \_\_\_\_\_

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(v) Vapor-protective clothing: \_\_\_\_\_

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Signed \_\_\_\_\_ Date \_\_\_\_/\_\_\_\_/\_\_\_\_

**5.3.4\* Identifying Decontamination Issues.** Given scenarios involving hazardous materials/WMD incidents, operations level responders shall identify when emergency decontamination is needed and shall meet the following requirements: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1237-1241, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 33, p884-891) **{Considering the scenarios on the FSTS website, which one would most likely require emergency decon and why?}**

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(1) Identify ways that people, personal protective equipment, apparatus, tools, and equipment become contaminated. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1237-1240, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 33, p884-891)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(2) Describe how the potential for secondary contamination determines the need for decontamination. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1239, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 33, p884-891)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(3) Explain the importance and limitations of decontamination procedures at hazardous materials incidents. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1237-1241, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 33, p884-891)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(4) Identify the purpose of emergency decontamination procedures at hazardous materials incidents. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1239-1240, 1241, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 33, p884-891)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(5) Identify the factors that should be considered in emergency decontamination. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1237, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 33, p884-891)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(6) Identify the advantages and limitations of emergency decontamination procedures. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1241, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 33, p884-891)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**5.4 Implementing the Planned Response.**

**5.4.1 Establishing and Enforcing Scene Control Procedures.**

Given scenarios for facility and/or transportation hazardous materials/WMD incidents, the first responder at the operational level shall identify how to establish and enforce scene control including control zones, emergency decontamination, and communications and shall meet the following requirements: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1227-1230, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 31,32,33, p858-860, 867-869, 879, 884-891)

- (1) Identify the procedures for establishing scene control through control zones.

Demonstrated in FF1 tactic

- (2) Identify the criteria for determining the locations of the control zones at hazardous materials/WMD incidents.

Demonstrated in FF1 tactic

- (3) Identify the basic techniques for the following protective actions at hazardous materials/WMD incidents:

- (a) Evacuation \_\_\_\_\_

- (b) Sheltering in-place protection \_\_\_\_\_

- (4) Demonstrate the ability to perform emergency decontamination

Demonstrated within FF 1 tactics

Signed \_\_\_\_\_

- (5)\* Identify the items to be considered in a safety briefing prior to allowing personnel to work at the following:

- (a) Hazardous materials incident

- (b)\* Hazardous materials incident involving criminal or terrorist activities

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- (6) Identify procedures for ensuring coordinated communication between responders and the public.

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Signed \_\_\_\_\_ Date \_\_\_\_/\_\_\_\_/\_\_\_\_

**5.4.2\* Preserving Evidence.** (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 18, p909-918, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 32 p 879)

List general procedures to follow for preserving evidence

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**5.4.3\* Initiating the Incident Command System.** Given scenarios involving hazardous materials/WMD incidents, the operations level responder shall initiate the incident command system specified in the emergency response plan and/or standard operating procedures and shall meet the following requirements: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapters 1,22,23 p35-43, 1215, 1221-1224, 1229-1233, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 30, p829-835)

Demonstrated: ICS will be established at all tactics performed

- (1) Identify the role of the operations level responder during hazardous materials/WMD incidents as specified in the emergency response plan and/or standard operating procedures. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1060, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 30, p829-835)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

- (2) Identify the levels of hazardous materials/WMD incidents as defined in the emergency response plan. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1221-1224, NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 30, p829-835)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

- (3) Identify the purpose, need, benefits, and elements of the incident command system for hazardous materials/WMD incidents. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 1,23, p34-40, 1215 NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 30, p829-835)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(4) Identify the duties and responsibilities of the following functions within the incident management system:

(a) Incident safety officer (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 1,23, p36, 1233; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 30, p829-835)

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(b) Hazardous materials branch or group (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1215; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 30, p829-835)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(5) Identify the considerations for determining the location of the incident command post for a hazardous materials/WMD incident. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1229; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 30, p829-835)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(6) Identify the procedures for requesting additional resources at a hazardous materials/WMD incident. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1230-1231; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 30, p829-835)

Demonstrated FF1 tactic

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(7) Describe the role and response objectives of other agencies that respond to hazardous materials/WMD incidents. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 1, p40-43; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 30, p829-835)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**5.4.4 Using Personal Protective Equipment.** The operations level responder shall describe considerations for the use of personal protective equipment provided by the authority having jurisdiction, and shall meet the following requirements: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1231, 1233; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 31, p843-860)

(1) Identify the importance of the buddy system. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1233; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 31, p843-860)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(2) Identify the importance of the backup personnel. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1233; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 31, p843-860)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(3) Identify the safety precautions to be observed when approaching and working at hazardous materials/WMD incidents. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1231; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 31, p843-860)

Demonstrated FF1 tactic

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(4) Identify the signs and symptoms of heat and cold stress and procedures for their control. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1081-1083; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 31, p843-860)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(5) Identify the procedures for cleaning, disinfecting, and inspecting personal protective equipment provided by the authority having jurisdiction. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1068-1069; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 31, p843-860)

Demonstrated FF1 tactic

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(7) Describe the maintenance, testing, inspection, and storage procedures for personal protective equipment provided by the authority having jurisdiction according to the manufacturer's specifications and recommendations. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1083-1084; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 31, p843-860)

Demonstrated FF1 tactic

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

## 5.5 Evaluating Progress.

**5.5.1 Evaluating the Status of Planned Response.** Given two scenarios involving hazardous materials/WMD incidents, including the incident action plan, the operations level responder shall evaluate the status of the actions taken in accomplishing the response objectives and shall meet the following requirements: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1226,1233; NFPA/IAFC

FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 32, p878-879) **{Use scenarios 7 and 8 on FSTS website to answer the following questions.}**

(1) Identify the considerations for evaluating whether actions taken were effective in accomplishing the objectives for both scenarios. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1226; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 32, p878-879)

Scenario 7

Identify the following:

Primary Hazard (statement of problem)

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Response Objectives

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Actions

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Did the actions meet the response objectives? \_\_\_\_\_

Scenario 8

Identify the following:

Primary Hazard (statement of problem)

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Response Objectives

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Actions

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Did the actions meet the response objectives? \_\_\_\_\_

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(2) Describe the circumstances under which it would be prudent to withdraw from a hazardous materials/WMD incident. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1233; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 32, p878-879)

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**5.5.2 Communicating the Status of the Planned Response.** Given two scenarios involving hazardous materials/WMD incidents, including the incident action plan, the operations level responder shall communicate the status of the planned response through the normal chain of command and shall meet the following requirements: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1226,1233; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 32, p878-879)

(1) Identify the methods for communicating the status of the planned response through the normal chain of command. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1226,1233; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 32, p878-879)

Demonstrated FF1 tactic

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(2) Identify the methods for immediate notification of the incident commander and other response personnel about critical emergency conditions at the incident. (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1233; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 32, p878-879)

Demonstrated FF1 tactic

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**6.2.3.1 Selecting Personal Protective Equipment.** Given scenarios involving hazardous materials/WMD incidents with known and unknown hazardous materials/WMD, the operations level responder assigned to use personal protective equipment shall select the personal protective equipment required to support mission-specific tasks at hazardous materials/WMD incidents based on local procedures and shall meet the following requirements: (Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1081-1102; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 31, p840-860)

(1)\*Describe the types of protective clothing and equipment that are available for response based on NFPA standards and how these items relate to EPA levels of protection.

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\_\_\_\_\_  
\_\_\_\_\_

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(2) Describe personal protective equipment options for the following hazards:

(a) Thermal

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(b) Radiological

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(c) Asphyxiating

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(d) Chemical

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(e) Etiological/biological

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(f) Mechanical

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(3) Select personal protective equipment for mission-specific tasks at hazardous materials/WMD incidents based on local procedures.

(a) Describe the following terms and explain their impact and significance on the selection of chemical protective clothing:

i. Degradation

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ii. Penetration

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iii. Permeation

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(b) Identify at least three indications of material degradation of chemical-protective clothing.

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(c) Identify the different designs of vapor-protective and splash-protective clothing and describe the advantages and disadvantages of each type.

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(d)\*Identify the relative advantages and disadvantages of the following heat exchange units used for the cooling of personnel operating in personal protective equipment:

i. Air cooled

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ii. Ice cooled

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iii. Water cooled

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iv. Phase change cooling technology

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(e) Identify the physiological and psychological stresses that can affect users of personal protective equipment.

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(f) Describe local procedures for going through the technical decontamination process.

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**6.2.4 Competencies — Implementing the Planned Response.**

**6.2.4.1 Using Protective Clothing and Respiratory Protection.** Given the personal protective equipment provided by the authority having jurisdiction, the operations level responder assigned to use personal protective equipment shall demonstrate the ability to don, work in, and doff the equipment provided to support mission specific tasks and shall meet the following requirements:

(1) Describe at least three safety procedures for personnel wearing protective clothing. Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1060-1080; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 31, p842-860

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(2) Describe at least three emergency procedures for personnel wearing protective clothing. Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 22, p1081-1082; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 32, p878-879

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**6.6 Mission-Specific Competencies: Product Control.**

6.6.1.2.2 When responding to hazardous materials/WMD incidents, the operations level responder assigned to perform product control shall be able to perform the following tasks: Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1263-1269; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 30, p833

(a) Describe the control options available to the operations level responder. : Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1263-1269; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 30, p833

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(b) Describe the control options available for flammable liquid and flammable gas incidents. : Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1263-1269; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 30, p833

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**6.6.3 Planning the Response.**

(2) Identify the purpose for and the procedures, equipment, and safety precautions associated with each of the following control techniques: Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p1261-1269; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 31, p843-855

(a) Absorption:

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(b) Adsorption:

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(c) Damming

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(d) Diking

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(e) Dilution

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(f) Diversion

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(g) Remote valve shutoff

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(h) Retention

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(i) Vapor dispersion

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(j) Vapor suppression

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**6.6.4 Implementing the Planned Response.**

**6.6.4.1 Performing Control Options.** Given an incident action plan for a hazardous materials/WMD incident, within the capabilities and equipment provided by the authority having jurisdiction, the operations level responder assigned to perform product control shall demonstrate control functions set out in the plan and shall meet the following requirements as prescribed by the authority having jurisdiction: Resource: IFSTA ESSENTIALS, 5<sup>th</sup> Ed, Chapter 23, p p1261-1269; NFPA/IAFC FUNDAMENTALS OF FIRE FIGHTER SKILLS, 2<sup>nd</sup> Ed., Chapter 32, p867-879

(1) Demonstrate application of foam on spill

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

(2) Identify the characteristics and applicability of the following Class B foams if supplied by the authority having jurisdiction:

(a) Aqueous film-forming foam (AFFF)

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(b) Alcohol-resistant concentrates

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(c) Fluoroprotein

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(d) High-expansion foam

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3. Given the required tools and equipment, demonstrate how to perform the following control activities:

- (a) Absorption
- (b) Adsorption
- (c) Damming
- (d) Diking
- (e) Dilution
- (f) Diversion
- (g) Remote valve shutoff
- (h) Retention
- (i) Vapor dispersion
- (j) Vapor suppression

Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(4) Identify the location and describe the use of emergency remote shutoff devices on MC/DOT-306/406, MC/DOT-307/407, and MC-331 cargo tanks containing flammable liquids or gases.

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

(5) Describe the use of emergency remote shutoff devices at fixed facilities.

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

6.6.4.2 The operations level responder assigned to perform product control shall describe local procedures for performing the technical decontamination process.

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Signed \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

## PROCTOR'S AFFIDAVIT

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

Proctor's Name \_\_\_\_\_

**By my signature, I hereby agree to administer testing for the Montana State University - Fire Services Training School in a professional manner, with integrity, and in compliance with the letter and spirit of the regulations governing the operation of the Professional Qualifications Certification System. I also certify that I have not been involved in the training of the candidate(s) for the skills which I am testing. I understand that any breach of this commitment will result in my immediate dismissal and possible legal action against me.**

\_\_\_\_\_  
Proctor's Signature

\_\_\_\_\_  
Witness

**\*\*\*\* PROCTOR IN SERVICE TRAINING \*\*\*\***

Location of Training: \_\_\_\_\_

Lead Instructor: \_\_\_\_\_

Date of Training: \_\_\_\_/\_\_\_\_/\_\_\_\_

## FSTS Tested Portion - Fire Fighter 1 Tactics

This page provides documentation for completion of the tactics required for Fire Fighter 1 certification. **Each Tactic must be signed off by a representative of the FTS.** Other signatures will not be accepted on this page. Bring this Booklet with you when testing and be sure to have the appropriate sections completed by the evaluators **before** they leave the test site.

Exterior Fire Tactic as Fire Fighter A

Evaluator \_\_\_\_\_ Date \_\_\_\_\_

Exterior Fire Tactic as Fire Fighter B

Evaluator \_\_\_\_\_ Date \_\_\_\_\_

Offensive Fire Attack as Fire Fighter A

Evaluator \_\_\_\_\_ Date \_\_\_\_\_

Offensive Fire Attack as Fire Fighter B

Evaluator \_\_\_\_\_ Date \_\_\_\_\_

Primary Search 2 Tactic as Fire Fighter A

Evaluator \_\_\_\_\_ Date \_\_\_\_\_

Primary Search 2 Tactic as Fire Fighter B

Evaluator \_\_\_\_\_ Date \_\_\_\_\_

Flat Roof Vent as Fire Fighter A

Evaluator \_\_\_\_\_ Date \_\_\_\_\_

Flat Roof Vent as Fire Fighter B

Evaluator \_\_\_\_\_ Date \_\_\_\_\_

Pitched Roof Vent as Fire Fighter A

Evaluator \_\_\_\_\_ Date \_\_\_\_\_

Pitched Roof Vent as Fire Fighter B

Evaluator \_\_\_\_\_ Date \_\_\_\_\_

Hot Zone Determination Fire Fighter A

Evaluator \_\_\_\_\_ Date \_\_\_\_\_

Hot Zone Determination Fire Fighter B

Evaluator \_\_\_\_\_ Date \_\_\_\_\_

Hot Zone Determination Fire Fighter C

Evaluator \_\_\_\_\_ Date \_\_\_\_\_

Decontamination Fire Fighter A

Evaluator \_\_\_\_\_

Date \_\_\_\_\_

Decontamination Fire Fighter B

Evaluator \_\_\_\_\_

Date \_\_\_\_\_

Decontamination Fire Fighter C

Evaluator \_\_\_\_\_

Date \_\_\_\_\_

# RESIDENTIAL FIRE SAFETY SURVEY

Basement	1st Floor	2nd Floor	Attic	Garage	Outside		
						1	Home has smoke alarms.
						2	Smoke alarms are in working order.
						3	Family has and practices an exit plan.
						4	Emergency numbers with address posted by phone.
						5	House numbers are easily visible from street.
						6	Exits are unobstructed.
						7	Adequate fire department access.
						8	Combustibles clear of exterior of residence.
						9	Outside garbage containers clear of residence.
						10	Extension cords are used only as a temporary measure.
						11	Appliance cords are in good condition.
						12	There are no overloaded outlets.
						13	Windows can be easily opened.
						14	Combustible trash is properly disposed of.
						15	Household chemicals are inaccessible to children.
						16	Matches are kept in secure area, out of reach of children.
						17	Large ashtrays are in every room. (Smokers only.)
						18	Candles clear of combustibles. Never left burning.
						19	Combustibles are clear of appliances (furnace/water heater) & utility areas.
						20	Furnace filters are clean and in good shape.
						21	Furnace serviced as recommended by manufacturer.
						22	Electrical panels clear of combustibles.
						23	Appliances are properly grounded.
						24	Clothes dryer lint collector is clean.
						25	Appropriate extinguisher available.
						26	Basement door is kept closed.
						27	Combustibles are clear of cooking areas.
						28	Small appliances are unplugged when not in use.
						29	Kitchen hood vent is clean and maintained.
						30	Fireplace has proper screen and hearth.
						31	Ashes disposed of properly.
						32	Chimney has been cleaned (if using solid fuels).
						33	CO Detector present and operable.
						34	Visible wiring is in good condition.
						35	Heating vents are properly maintained.
						36	There is a solid core door between garage and residence and no penetrations in the wall separating the garage.
						37	Gasoline powered equipment stored outside the residence.
						38	Flammable liquids are properly stored outside the residence.
						39	Propane properly stored outside residence.

Address of Property Inspected: \_\_\_\_\_

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

Signature of Inspector: \_\_\_\_\_

Person to whom inspector(s) talked to: \_\_\_\_\_

## EMERGENCY SERVICES FIRE AND RESCUE TECHNOLOGY

Associate of Applied Science Degree – MSU GF – College of Technology Phone: 406.771.4300

Catalog 2007-2008

Estimated Cost: \$11,733 (Tuition and Fees \$4,473, Application Fee \$30, Lab Fees \$180, Fire Training School up to \$6000, Books and Supplies \$1,050)

Advisor: John Culbertson

Today's firefighters not only respond to fire and medical emergencies but also participate in disaster response planning, hazardous material spill mitigation, enforcement of fire codes and standards, as well as delivery of safety, fire, and accident prevention programs. The work of the contemporary firefighter is multi-functional and requires a high level of expertise in relevant technical areas as well as proficiencies in written and oral communications, leadership, planning, and the ability to deal with a broad range of individuals and situations.

This degree program combines technical fire and rescue training with general education courses to fulfill Associate of Applied Science Degree requirements. It also incorporates the opportunity to transfer credits toward a four-year degree in Fire Science/Administration.

Outcomes: Graduates are prepared to:

Demonstrate the skills required at the Fire Fighter 1 & 2, Hazmat Technician, Officer 1 and EMT Basic levels of competency (this results in five professional certifications).

Recognize and respond effectively to fire code and fire life safety issues.

Use appropriate methods for fire suppression and extinguishment in a variety of settings.

Detect arson.

Provide basic emergency medical service

Assume supervisory responsibilities for a fire crew.

Communicate effectively both orally and in writing.

The Fire and Rescue Technology Option is offered as a cooperative endeavor between Montana State University - Great Falls College of Technology and Montana State University Fire Services Training School–Great Falls.

The availability of on-line classes through MSU-Great Falls COT will allow firefighters to complete general education degree requirements without having to relocate to Great Falls.

Required technical courses are offered at locations throughout the state, mostly on weekends. Please visit the Fire Services Training School's website at [www.montana.edu/wwwfire](http://www.montana.edu/wwwfire) for the latest schedule of technical courses and costs.

Program applicants should forward their requests for transfer of credit for general and technical education to the Registrar's Office at the College. Requests for transfer of credit should include official copies of transcripts. Technical credits that are not on a technical transcript need to send documents to the Registrar's Office at the College so the requests for transfer of technical credits can be reviewed.

Only the credits taken from MSU – Great Falls COT are eligible for Financial Aid. FRS prefix classes are not eligible.

### General Education Requirements

Course	No.	Title	Credits
COMM	135	Interpersonal Communication	3
ENGL	124**	Business & Professional Comm	3
MATH	---**	103 or higher	3-4
PHYS	130	Fundamentals of Physical Science	4
PSY	101	General Psychology	3
<b>SUBTOTAL</b>			<b>16-17</b>

### Technical Education Requirements

Course	No.	Title	Credits
EMS	137	EMT Basic	6
FRS	101	Firefighter I	5
FRS	102*	Firefighter II	5
FRS	112*	Fire Inspection & Investigation	3
FRS	241	Fire Department Internship	3
FRS	245*	Fire Service Training & Safety Education	2

**TECHNICAL COURSE REQUIREMENTS DETAIL:**

<u>Course #</u>	<u>Course Title</u>	<u>Credits</u>
FRS 101	Fire Fighter 1	5
FRS 102	Fire Fighter 2	5
EMS 137	EMT Basic	7
FRS 112	Fire Inspection & Investigation NFA Introduction to Fire Inspection Principle Practices 1 NFA Introduction to Fire Inspection Principle Practices 2 NFA Fire Arson Detection for First Responders	3
FRS 241	Fire Department Internship 45 hours, need advisor approval for plan, goals, objectives	3
FRS 245	Fire Service Training & Safety Education Instructor "C" NFA Fire Prevention for First Responders	2
FRS 250	Building Construction NFA Building Construction 1: Wood / Ordinary NFA Building Construction 2: Fire Resist / Non-Combust	2
FRS 265	Incident Management & Safety NFA Incident Safety Officer NFA Fire Fighter Safety & Survival NIMS for Fire Service (ICS)	3
FRS 275 & 280	Tactical Operations and Company Management NFPA 1021 Fire Officer 1	5
FRS 285	Hazardous Materials NFPA 472 Hazardous Materials Technician	5
Total Credits:		40