NFPA 470: 2022 Edition, Chapter 7 Hazardous Materials/WMD Operations Level Responders

Below please find what has been previously approved by the Committee on Accreditation (COA) for this level of certification. This example does not take into consideration “Document Review”, “Portfolio”, or “Other testing methods.”

If your agency selects completing their online Assessment Methodology Matrix (AMM) utilizing these test methods, our Technical Analysts may place your application under a COA meeting consent agenda bypassing the usual COA review.

The spaces identified below with an “**X**” must be replaced with the appropriate cognitive test item numbers (e.g. Questions 1,4,6,7,9, etc.) or the score sheet numbers under Product, Psychomotor/Process methods as score sheet numbers (e.g.- SS 101, 202, and 304, etc.).

	Knowledge-Based Assessments (graded after submission)		**Performance-Based Assessments** (graded in real-time as they are performed)	
Section	**Cognitive** (e.g. Multiple Choice, Short Answer, Discretionary Time with Resources)	**Product** (e.g., document or develop a budget, proposal, lesson plan)	**Psychomotor** (Primarily an observable physical task. e.g., don, doff)	**Process** (Primarily a mental or verbalized task. e.g., inspect)
7.2.1 Identify the scope of the problem at a hazardous materials/WMD incident, given a hazardous materials/WMD incident, an assignment, policies and procedures, and approved reference sources, so that container types, materials, location and physical state (form) of release, and surrounding conditions are identified, hazard and response information is collected, the potential behavior of a material and its container is identified, and the potential hazards, harm, and outcomes associated with that behavior are identified.				
7.2.1				**X**
7.2.1 (A) Requisite Knowledge. Types of information to be collected during the hazardous materials/WMD incident survey, including types of containers and the physical state of their likely contents, material involved, general location and physical state (form) of release, and surrounding conditions to include (1) Topography, (2) Land use, (3) Accessibility, (4) Weather conditions, (5) Bodies of water, (6) Public exposure potential, (7) Overhead and underground wires and pipelines, (8) Storm and sewer drains, (9) Possible ignition sources, (10) Adjacent land use such as rail lines, (11) Highways, (12) Airports, (13) Nature and extent of injuries, (14) Building information, including the following: (a) Floor drains, (b) Ventilation ducts,				

(c) Air returns; container identification markings, including transportation vehicles and facility storage tanks, pesticide labels, radioactive material labels, piping and pipeline markings and contacting information; availability of shipping papers in transportation and of safety data sheets (SDS) at facilities; types of hazard and response information available from and how to contact CHEMTREC, CANUTEC, and SETIQ, governmental authorities, and manufacturers, shippers, and carriers (highway, rail, water, air, pipeline); how to communicate with subject matter experts including carrier and manufacturer representatives to reduce impact of a release; basic physical and chemical properties as (a) Biological agents and toxins, i. Bacteria ii. Viruses, (b) Carcinogen, (c) Corrosivity, i. Acid, ii. Base, iii. Concentration, iv. pH scale, v. Strength, (d) Expansion ratio (liquefied gases and cryogenics), (e) Flammability, i. Boiling point, ii. Flammable range, iii. Flash point, iv. Ignition (autoignition) temperature, v. Lower explosive limit (LEL), vi. Upper explosive limit (UEL), (f) Persistence, (g) Physical state (solid, liquid, gas), (h) Poison, (i) Products of combustion (toxic), (j) Reactivity, i. Air, ii. Chemical, iii. Energetic, iv. Oxidizers, v. Polymerization, vi. Water, (k) Radiation (ionizing and nonionizing), (l) Routes of exposure, (m) Specific gravity, (n) Vapor density, (o) Vapor pressure, (p) Toxicity. The use the hazard information obtained from the current edition of the ERG, SDS, CHEMTREC/CANUTEC/SETIQ, governmental authorities, and manufacturer, shipper, and carrier contacts to identify the differences between the following terms: (a) Contamination and secondary contamination, (b) Exposure and contamination, (c) Exposure and hazard, (d) Infectious and contagious, (e) Acute effects and chronic effects, (f) Acute exposures and chronic exposures; how to identify the behavior of a material and its container based on the material's physical and chemical properties and identify hazards associated with that behavior; examples of potential criminal and terrorist targets; indicators of possible criminal or terrorist activity for each of the following: chemical agents, biological agents, radiological agents, illicit laboratories and explosives; additional hazards associated with terrorist or criminal activities, such as secondary devices and threats; and how to determine the likely harm and outcomes associated with the identified behavior and the surrounding conditions.

7.2.1(A)	X		

7.2.1(B) Requisite Skills. Identifying container types, materials, location and physical state (form) of release, and surrounding conditions at a hazardous materials/WMD incident; collecting hazard and response information; communicating with pipeline operators or carrier representatives; describing the likely behavior of the hazardous materials or WMD and its container; and describing the likely outcomes associated with the identified behavior and surrounding conditions.

7.2.1(B)			X

7.3.1 Identify the tactics for a hazardous materials/WMD incident, given a hazardous materials/WMD incident, an assignment, policies and procedures, approved reference sources, and the scope of the problem, so that response information is collected; strategies, tactics, safety precautions, suitability of approved personal protective equipment (PPE) available, and emergency decontamination needs are identified; and an action plan is developed.

7.3.1			X
7.3.1(A) Requisite Knowledge. Basic components of an incident action plan (IAP); modes of operation (offensive, defensive, and nonintervention); types of strategies; types of tactics; types of response information available from the Emergency Response Guidebook (ERG), SDS, shipping papers and emergency response information, and other resources; types of assistance provided by, procedure for contacting, and information to be provided to CHEMTREC, CANUTEC, and SETIQ, governmental authorities, and manufacturers, shippers, and carriers (highway, rail, water, air, pipeline); safety procedures; actions necessary when incident involves potential criminal or terrorist activities; risk analysis concepts; purpose, advantages, limitations, required physical capabilities and limitation of personnel working in PPE; uses of approved PPE to determine if PPE is suitable for the incident conditions; contamination types, including sources and hazards of carcinogens at incident scenes; types of decontamination (emergency, mass, and technical); purpose, advantages, and limitations of emergency decontamination; and procedures, tools, and equipment for performing emergency decontamination.			
7.3.1(A)	X		
7.3.1 (B) Requisite Skills. Identifying strategies and tactics based on the scope of the problem and available resources; identifying whether approved PPE is suitable for the incident conditions; and identifying emergency decontamination needs based on the scope of the problem.			
7.3.1(B)			X
7.4.1 Perform assigned tasks at a hazardous materials/WMD incident, given a hazardous materials/WMD incident; an assignment with limited potential of contact with hazardous materials/WMD, policies and procedures, the scope of the problem, approved tools, equipment, and PPE, so that protective actions and scene control are established and maintained, on-scene incident command is initiated, evidence is preserved, approved PPE is selected and used in the proper manner, exposures and personnel are protected, safety procedures are followed, hazards are avoided or minimized, assignments are completed, and emergency decontamination is conducted in the field.			
7.4.1			X
7.4.1 (A) Requisite Knowledge. Scene control procedures; procedures, including control zones and the criteria for determining the locations of the control zones; for protective actions, including evacuation and sheltering-in-place; procedures for ensuring coordinated communications between responders and to the public; evidence recognition and preservation procedures; incident command organization; purpose, importance, benefits, and organization of incident command at hazardous materials/WMD incidents; policies and procedures for implementing incident command at hazardous materials/WMD incidents; duties and responsibilities of the Incident Safety Officer; items to be considered in a safety briefing such as (a) Hazardous material incidents and (b) Hazardous materials/WMD incidents involving criminal activities; duties and responsibilities of the hazardous materials branch or group; capabilities, limitations, inspection, donning, working in, going through decontamination while wearing, and doffing of approved			

PPE; signs and symptoms of thermal stress; safety precautions when working at hazardous materials/WMD incidents; purpose, advantages, and limitations of emergency decontamination; the need for emergency decontamination in the field based on the task(s) performed and contamination received, including sources and hazards of carcinogens at incident scenes; emergency decontamination; and cleaning, disinfecting, and inspecting tools, equipment, and PPE.				
7.4.1(A)	X			
7.4.1(B) Requisite Skills. Establishing and maintaining scene control; recognizing and preserving evidence; inspecting, donning, working in, going through decontamination while wearing, and doffing approved PPE; isolating contaminated tools, equipment, and PPE; conducting emergency decontamination; and cleaning, disinfecting, and inspecting approved tools, equipment, and PPE.				
7.4.1(B)			X	
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7.5.1 Perform emergency decontamination at a hazardous materials/WMD incident, given a hazardous materials/WMD incident that requires emergency decontamination; an assignment; scope of the problem; policies and procedures; and approved tools, equipment, and PPE for emergency decontamination, so that emergency decontamination needs are identified, approved PPE is selected and used, exposures and personnel are protected, safety procedures are followed, hazards are avoided or minimized, emergency decontamination is set up and implemented, and victims and responders are decontaminated.				
7.5.1			X	
7.5.1 (A) Requisite Knowledge. Contamination, cross contamination, and exposure; contamination types; routes of types of decontamination (emergency, mass, and technical); purpose, advantages, and limitations of emergency decontamination; policies and procedures for performing emergency decontamination; approved tools and equipment for emergency decontamination; and hazard avoidance for emergency decontamination.				
7.5.1(A)	X			

7.5.1 (B) Requisite Skills. Selecting an emergency decontamination method; setting up emergency decontamination in a safe area; using PPE in the proper manner; implementing emergency decontamination; preventing spread of contamination; and avoiding hazards during emergency decontamination.			
7.5.1(B)			X
7.6.1 Evaluate and report the progress of an assigned task for a hazardous materials/WMD incident, given a hazardous materials/WMD incident, an assignment, policies and procedures, status of implemented strategies and tactics, and approved communication tools and equipment, so that the effectiveness of the assigned task is evaluated and communicated to the Incident Commander or designee so that the IAP can be adjusted as needed.			
7.6.1			X
7.6.1 (A) Requisite Knowledge. Components of progress reports; policies and procedures for evaluating and reporting progress; methods for immediate notification of Incident Commander and other response personnel regarding critical emergency conditions at an incident; use of approved communication tools and equipment; facts and circumstances indicating improving, static, or deteriorating conditions based on the assigned tasks intended to accomplish the incident objectives; and the ability to compare actual behavior of the material and the container to the predicted circumstances under which it would be prudent to withdraw from a hazardous materials/WMD incident.			
7.6.1(A)	X		
7.6.1 (B) Requisite Skills. Determining incident status; determining whether the strategies are being accomplished; using approved communications tools and equipment; and communicating the status of assigned tasks.			
7.6.1(B)			X