

## HAZARDOUS MATERIALS RESPONSE TEAM

<b>DESCRIPTION</b>	A Hazardous Materials Response Team is an organized group of hazardous materials technicians that responds to hazardous materials incidents, including those involving the use of Weapons of Mass Destruction (WMD). At the discretion of the team leader, personnel trained in hazardous materials operations may also augment the Hazardous Materials Response Team in the performance of low-risk tasks that do not bring them into contact with hazardous materials or substances, such as decontamination.		
<b>RESOURCE CATEGORY</b>	Fire/Hazardous Materials	<b>RESOURCE KIND</b>	Team
<b>OVERALL FUNCTION</b>	<p>The Hazardous Materials Response Team:</p> <ol style="list-style-type: none"> <li>1. Detects the presence of and identifies associated chemical and physical properties of hazardous materials/WMD</li> <li>2. Identifies and establishes control zones after contamination spread</li> <li>3. Contains and mitigates liquid and vapor leaks through interventions such as neutralization, plugging, and patching</li> <li>4. Uses protocols to collect and label substances and evidence in preparation for transportation</li> <li>5. Detects and surveys for different types of ionizing radiation</li> <li>6. Interprets readings accurately from radiation detection devices and conducts geographical survey search for suspected radiological sources or contamination</li> <li>7. Takes actions to limit personnel exposure to radiation and contain the spread of contamination</li> <li>8. Conducts research related to hazardous materials and WMD to contribute to the Incident Action Plan (IAP)</li> <li>9. Develops predictive plume models to inform protective actions and support the IAP</li> </ol>	<b>COMPOSITION AND ORDERING SPECIFICATIONS</b>	<ol style="list-style-type: none"> <li>1. Discuss logistics for deploying this team, such as security, lodging, transportation, and meals, prior to deployment</li> <li>2. This team typically works 12 hours per shift, is self-sustainable for 72 hours, and is deployable for up to 14 days</li> <li>3. Type 1 through Type 3 teams are fully autonomous teams capable of performing a minimum of three entries without local support; requestor and provider should discuss logistical support needs for additional entries</li> <li>4. Type 3 teams support entries into environments with known and classified hazards requiring use of National Fire Protection Association (NFPA) 1992 or 1994 protective ensembles</li> <li>5. Type 1 and Type 2 teams support multiple entries into hazardous materials/WMD environments requiring various protective ensembles consistent with NFPA 1991 and 1994</li> <li>6. Teams work according to established protocols and applicable regulations regarding work/rest ratios, exposure times, and exposure limits</li> <li>7. Teams deploy with their own vehicle(s) capable of completing the specified mission</li> <li>8. Requestor and provider should discuss: <ol style="list-style-type: none"> <li>a. The level of capability needed for detection, monitoring, sampling, substance identification, and intervention</li> <li>b. The need for and availability of any additional consumable supplies, such as damming/diking materials, showers, and so on</li> <li>c. The mission assignment and the need for specialized equipment, such as secure radios</li> <li>d. Mission-specific capabilities, such as tank car, railcar, cargo tank trucks, intermodal tanks, marine tanks, non-tank vessels, bulk storage for flammable liquids and gases, and radioactive materials</li> <li>e. The need to coordinate with local, state, and Federal agencies, such as Environmental Protection Agency (EPA), Local Emergency Planning Committees (LEPC), State Emergency Response Commission (SERC), and so on</li> </ol> </li> </ol>



RESOURCE TYPES			TYPE 1	TYPE 2	TYPE 3	NO TYPE 4
COMPONENT	METRIC/ MEASURE	CAPABILITY				
Personnel	Per Team	Management and Oversight	Same as Type 2	Same as Type 3	1 - National Incident Management System (NIMS) Type 1 Hazardous Materials Team Leader 1 - Assistant Safety Officer for Hazardous Materials	Not Applicable
			NOTES: 1. The Hazardous Materials Team Leader serves as the Hazardous Materials Branch director. 2. The Assistant Safety Officer for Hazardous Materials is an experienced NIMS Type 2 Hazardous Materials Technician that serves as the Assistant Safety Officer for hazardous materials and reports to the incident Safety Officer.			
Equipment	Per Team	Transportation	Same as Type 2	Same as Type 3	Specialized hazardous materials response apparatus, trailer, or other form of transport appropriate for personnel and equipment	Not Applicable
			NOTES: Not Specified			
Equipment	Per Team	Communications	Same as Type 2	Same as Type 3	1. In-suit wireless voice technology 2. Laptop computer 3. Printer 4. Wireless data capability  5. Fax and scan capability 6. GPS capability 7. Radio, cell phone, or satellite phone, for each team member	Not Applicable
			NOTES: 1. Personnel using CPC need to be able to communicate appropriately and safely with one another and their team leaders. 2. Type 1 teams should have secure radio channels. 3. Type 1 through Type 3 teams should have data and communications systems necessary to effectively conduct research.			

Superseded



RESOURCE TYPES			TYPE 1	TYPE 2	TYPE 3	NO TYPE 4
COMPONENT	METRIC/ MEASURE	CAPABILITY				
Equipment	Per Team Member	Personal Protective Equipment (PPE)	Same as Type 2, PLUS: Protective ensembles for first responders to CBRN (chemical, biological, radiological, nuclear) terrorism incidents (NFPA 1994)	Same as Type 3, PLUS: Vapor-protective ensembles for hazardous materials emergencies (NFPA 1991)	1. Self-contained breathing apparatus (SCBA) 2. Air purifying respirator (APR) with compatible filtration system based on the physical and chemical properties of the product. 3. Liquid splash-protective ensembles and clothing for hazardous materials emergencies (NFPA 1992)	Not Applicable
			<b>NOTES:</b> 1. Respiratory devices must be CBRN approved by the National Institute for Occupational Safety and Health (NIOSH) and compliant with 42 CFR Part 84: Approval of Respiratory Protective Devices, and with NFPA 1981 Standard for Open-Circuit Self-Contained Breathing Apparatus for Emergency Services. 2. Teams should have sufficient equipment and supplies to support a minimum of three entries. 3. Additional suits are needed in case of contamination. 4. Teams should have enough SCBA units to support entry, backup, standby, and decontamination. 5. Chemical protective clothing (CPC) and protective ensembles are for individual use and should not be considered recyclable. 6. CPC includes complete ensembles (suit, boots, and gloves) and may incorporate various configurations (encapsulating, non-encapsulating, jumpsuit, and multi-piece) depending on the level of protection needed. 7. Each response or mission may require additional specialized equipment. 8. Level A ensembles consist of gastight/vapor-protective, chemical-resistant clothing providing full body coverage and a positive-pressure SCBA or supplied air breathing apparatus (SABA) with escape cylinder in accordance with NFPA 1991 and NFPA 1981. 9. Level B ensembles consist of chemical-splash resistant clothing providing full-body coverage and a positive-pressure SCBA or SABA with escape cylinder in accordance to NFPA 1992 and NFPA 1981.			
Personnel	Per Team	Minimum	24	18	13	Not Applicable
			<b>NOTES:</b> Not Specified			

Superseded



RESOURCE TYPES			TYPE 1	TYPE 2	TYPE 3	NO TYPE 4
COMPONENT	METRIC/ MEASURE	CAPABILITY				
Personnel	Per Team	Support	1 - NIMS Type 1 Hazardous Materials Technician 20 - NIMS Type 2 Hazardous Materials Technician 1 - NIMS Type 1 Hazardous Materials Research Specialist	Same as Type 3, PLUS: 5 - NIMS Type 2 Hazardous Materials Technician	10 - NIMS Type 2 Hazardous Materials Technician 1 - NIMS Type 1 Hazardous Materials Research Specialist	Not Applicable
			<b>NOTES:</b> 1. The Hazardous Materials Team Leader assigns personnel to the Hazardous Materials Branch functional groups, including entry, decontamination, reference, and site control. 2. At the discretion of the team leader, personnel trained in hazardous materials operations may also augment the Hazardous Materials Response Team in the performance of low-risk tasks that do not bring them into contact with hazardous materials or substances, such as decontamination.			
Capability	Per Team	Number of Entries	Same as Type 2	Same as Type 3	3 entries	Not Applicable
			<b>NOTES:</b> Not Specified			
Equipment	Per Team	Substance Detection and Monitoring	Same as Type 2, PLUS: 1. Advanced testing instruments such as gas chromatography and mass spectrometry 2. Advanced direct- reading instruments for perimeter or direct air monitoring of substances, such as surface acoustic wave (SAW) or nanotechnology 3. Advanced radiological detection instruments, such as x-ray and neutron detection monitors and isotope identification instruments	Same as Type 3, PLUS: 1. Intermediate testing equipment, such as Fourier transform infrared spectroscopy (FTIR) or Raman spectroscopy 2. Intermediate direct- reading instruments, such as Flame Ionization Detection (FID) 3. Intermediate radiological detection instruments, such as an alpha radiation detection monitor with survey capabilities	Sources for testing chemical substances to identify chemical and physical properties, such as: 1. Basic testing instruments, such as chemical testing kits and testing strips 2. Basic direct-reading instruments, such as a multi-gas meter and Photo ionization Detector (PID) 3. Basic radiological detection instruments, such as beta and gamma radiation detection and survey monitor 4. Printed and electronic reference resources 5. Safety data sheets 6. Personal dosimeters	Not Applicable
			<b>NOTES:</b> Not Specified			

Superseded



RESOURCE TYPES			TYPE 1	TYPE 2	TYPE 3	NO TYPE 4
COMPONENT	METRIC/ MEASURE	CAPABILITY				
Supplies	Per Team	Sampling, Capturing, Labeling, and Evidence Collection	Same as Type 2	Same as Type 3, PLUS: Sampling, capturing, labeling, and evidence collection methods in accordance with Laboratory Response Network (LRN) protocol	1. Overpacking containers  2. Labels 3. Evidence bags and sealing tape	Not Applicable
			NOTES: 1. OSHA 29 CFR Part 1910.120(j) addresses Hazardous Waste Operations and Emergency Response - Handling Drums and Containers. 2. Type 1 and Type 2 teams should follow the appropriate LRN protocol, which may vary based on incident needs.			
Capabilities	Per Team	Intervention	Same as Type 2	Same as Type 3, PLUS: Mechanical means such as specially designed kits for controlling leaks in railcar dome assemblies; pressurized containers, such as pneumatic and standard patching systems	Hand tools and mechanical means capable of diverting, retaining, damming, diking, and booming	Not Applicable
			NOTES: Not Specified			
Supplies	Per Team	Intervention	Same as Type 2	Same as Type 3	Natural and manmade absorbing, neutralizing, encapsulating, damming, and diking materials, such as dirt, sand, wood, chemical means, and so on	Not Applicable
			NOTES: Vehicles such as front loaders and bucket trucks may need to be ordered separately to move absorbing and neutralizing materials.			

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RESOURCE TYPES			TYPE 1	TYPE 2	TYPE 3	NO TYPE 4
COMPONENT	METRIC/ MEASURE	CAPABILITY				
Supplies	Per Team	Decontamination	Same as Type 2	Same as Type 3	Range of supplies and equipment for conducting decontamination, commensurate with the mission assignment, such as: 1. Inflatable decontamination units 2. Hoses 3. Pools 4. Brushes 5. Bleach 6. Calcium hypochlorite and water 7. Runoff containment and tools to create containment area 8. Shower units	Not Applicable
<b>NOTES:</b> This team coordinates with the Hazardous Materials Research Specialist to ensure neutralization procedures and processes are effective.						

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RESOURCE TYPES			TYPE 1	TYPE 2	TYPE 3	NO TYPE 4
COMPONENT	METRIC/ MEASURE	CAPABILITY				
References	Per Team	Technical	Same as Type 2	Same as Type 3, PLUS: 1. Plume air modeling and map overlays 2. Technical references with one source for air modeling and the ability to outsource additional definitive modeling 3. Geographic Information Systems (GIS) software	On-scene access to various printed and electronic materials and databases, including: 1. Decontamination procedures for known and unknown chemicals 2. Technical data related to metering/monitoring equipment used for post decontamination confirmation 3. Chemical substance data depositories and other guidelines 4. Safety data sheets in print or electronic format or stand-alone computer programs 5. Data available via telecommunications, allowing teams to interpret data collected from electronic devices and chemical testing procedures	Not Applicable
NOTES: Type 1 and Type 2 teams should have GIS capabilities for evaluating dispersion characteristics.						

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## REFERENCES

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1. FEMA, NIMS 509: Hazardous Materials Team Leader
2. FEMA, NIMS 509: Hazardous Materials Technician
3. FEMA, NIMS 509: Hazardous Materials Research Specialist
4. Occupational Safety and Health Administration (OSHA) 29 Code of Federal Regulations (CFR) Part 1910.120: Hazardous Waste Operations and Emergency Response, latest edition adopted
5. National Fire Protection Association (NFPA) 472: Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction, latest edition adopted
6. NFPA 475: Recommended Practice for Organizing, Managing, and Sustaining a Hazardous Materials/Weapons of Mass Destruction Response Program, latest edition adopted
7. NFPA 1072: Standard for Hazardous Materials/Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications, latest edition adopted
8. NFPA 1981: Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, latest edition adopted
9. NFPA 1991: Standard on Vapor-Protective Ensembles for Hazardous Materials Emergencies, latest edition adopted
10. NFPA 1992: Standard on Liquid Splash-Protective Ensembles and Clothing for Hazardous Materials Emergencies, latest edition adopted
11. NFPA 1994: Standard on Protective Ensembles for First Responders to CBRN Terrorism Incidents, latest edition adopted
12. National Wildfire Coordinating Group (NWCG), PMS 307: Work Capacity Test, latest edition adopted
13. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC) Title 42 CFR Part 84: Approval of Respiratory Protective Devices, latest edition adopted

## NOTES

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Nationally typed resources represent the minimum criteria for the associated component and capability.

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