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Division 09 **Special Operations**

Chapter 01 – Technical Rescue Services

January 2010

POLICY

The Technical Rescue Services Team will respond to all incidents requiring technical skills and equipment as defined in National Fire Protection Agency (NFPA), or fall under the enforcement of Occupational Safety and Health Administration (OSHA) and Maryland Occupational Safety and Health (MOSH) laws.

DEFINITIONS

Confined Space – is a space that is large enough and so configured that a person can enter and perform assigned work, that has limited or restricted means for entry or exit, and that is not designed for continuous human occupancy. As defined in (MOSH) COMAR 09.12.35 and (OSHA) 29CFR 1910.146

High Angle – is an environment in which the load is predominantly supported by the rope rescue system.

Swift Water – is water moving at a rate greater than one (1) knot (1.15 mph).

Technical Rescue - is the application of special knowledge, skills, and equipment to safely resolve unique and/or complex rescue situations.

Trench – is a narrow (in relation to length) excavation made below the surface of the earth.

PROCEDURES

1. General Provisions

The team will operate within the framework established by the NFPA, and ensure that all incidents involving mandated laws (Federal and State) are mitigated without violation. A Technical Rescue Committee comprised of members from each Technical Rescue Company will be formed to ensure compliance with standards set by federal, state, and local entities.

Technical Rescue Team shall be comprised of a primary Technical Rescue Company and complemented by a minimum of two (2) strategically located satellite companies. Stations 849 & 856/857 are also members of the technical rescue team authorized to operate in the water rescue arena. These volunteer organizations must continue to meet departmental requirements and follow departmental standard operating procedures.

The primary Technical Rescue Company will be responsible for the ensuring administrative and technical compliance with federal, state, and local standards.

The satellite companies will be trained to a technician level and will support the primary Technical Rescue Company.

2. Qualifications

Minimum qualifications for technical rescue team participation are:

- Successful completion of all probationary evaluations
- Firefighter II.
- Hazardous Materials Operation Level certification



- Meet all standards found in NFPA 1670, Standard on Operations and Training for Technical Search and Rescue Incidents and NFPA 1006, Standard for Rescue Technician Professional Qualifications

Training will meet the requirements of NFPA Standards 1006, and NFPA 1670. This training is divided into the following three (3) basic categories:

- Awareness level – consists of an introduction to the topic with an emphasis on recognizing the hazards, securing the scene, and calling for the appropriate assistance. There is no actual use of rescue skills at this level.
- Operations level – consists of training designed to provide the emergency responder with the technical skills necessary to provide skilled assistance to those responsible for performing the technical rescue.
- Technician level – consists of training to ensure that the emergency responder is capable of hazard recognition, equipment use, and is capable of conducting more complex technical rescue operations, as well as possessing the skill sets to manage a technical rescue incident.

NFPA 1670 requires a minimum of six personnel trained to the appropriate level to begin mitigation of a technical rescue. It is imperative that members are aware of their training limits and do not operate outside/above their capability.

Training shall be provided through formal programs and regular drills, coordinated by the Technical Rescue Committee, and shall be designed to maintain proficiency and Departmental continuity.

3. Types of Technical Rescues

Building/Trench/Excavation Collapse

- Often creates void spaces that meet the definition of a confined space.
- Structural damage caused by vehicles, weather or system failure.
- Requested by Fire Investigations to shore up scene or by the Incident Commander.

Confined Spaces

Non-Permit required

- Large enough and so configured that a person can enter and perform assigned work.
- Has limited means of entry and egress.
- Is not designed for continuous occupancy (examples: manholes, sewers, silos, wells, tanks, bins, hoppers, and any other space that meets one or all the above definitions.)

Permit required

- If space contains one (1) or more of the following hazards a permit is required:
 - Electrical Hazards
 - Atmospheric hazard
 - Inward converging walls or sloping floors
 - Any other known hazard

Rope Rescue

- Overland or severely sloped elevations (greater than 40 degrees)
- Above or below grade (towers, bridges, elevator shafts, construction pits, quarries, trees, amusement park rides, etc.)

Water Incidents

Any related incidents including, but not limited to:



- Reports of persons in distress or missing in static (i.e., pool, pond, lake) or moving water.
- Reports of persons or vehicle trapped/stranded in moving water
- Reports of persons trapped/stranded on ice
- Vessels in distress

4. Dispatch

The Public Safety Communications (PSC) shift supervisor, upon receipt of any incidents as described above, will dispatch a “Technical Rescue Emergency” as described in this General Order. The minimum assignment should include the primary Technical Rescue Company, the closest satellite company, and the Department’s Safety Officer.

All attempts will be made to mitigate the Technical Rescue incident with on-duty personnel (minimum of 6 personnel) from the primary and satellite Technical Rescue Companies. However, technical rescue incidents can be labor intensive, and often require more resources than are available on-duty.

In the event that additional technically trained personnel are required, the on-duty technical rescue shift leader should request the Incident Commander to authorize a technical rescue team callback.

Request for a technical rescue mutual aid response must be approved by the Duty Chief.

The Operations Center will be responsible for issuing the technical rescue page. The page should include the following information:

- Type of incident
- Location
- Staging area

- Radio channel

5. Operations

First arriving responders on all technical rescue incidents must address the following:

- Establish the Incident Command (ICS).
- Conduct a scene size-up.
- Establish site management and control – the first arriving unit must establish a level two staging area.
- Perform a hazard/risk assessment.
- Establish operating zones (hot, warm, and cold) appropriate for the known hazards.
- Identify and maintain contact with a responsible party/witness.

Personnel must not perform any rescue that is beyond their training capabilities or in violation of any MOSH/OSH law or NFPA standard.

Tactical Considerations

Structural Collapse/Car into a building:

- Establish single point of entry.
- Perform obvious rescues without causing additional collapse.
- Shut down equipment that may contribute to a second collapse.
- Evacuate as necessary.
- Check exposures for collateral damage.
- Deploy atmospheric monitoring.
- Control the utilities.
- Attempt to locate any trapped victims.
- Call for a building inspector.

Trench/Excavation Collapse

At no time shall personnel enter into an open trench without proper shoring and safety systems in place. First arriving personnel should:



- Shut down surrounding equipment.
- Locate victim(s), if possible.
- Begin atmospheric monitoring, if possible.
- Approach trench from the ends.
- Control utilities.
- Establish/maintain communication with victim(s); encourage self-rescue.

Rope Rescue

At no time should personnel engage in a rope rescue without approved training, equipment and with safety systems in place.

- Rope system will not be deployed without a back-up system in place.
- Rope systems will have a self-rescue component.
- Rope system will maintain a 15:1 safety factor.

Confined Space

At no time should any member enter a confined space without the proper safety systems in place, continuous air monitoring, retrieval systems, proper breathing apparatus, and a back-up plan.

- Begin atmospheric monitoring, if available.
- Begin ventilation, if appropriate.
- Begin lockout, tagout procedures.
- Locate and maintain contact with supervisor/witness.
- Perform any non-entry rescue, if possible.

Water/Ice/Swift Water

It is imperative that absolutely no member approaches the water's edge wearing any structural firefighting gear, including firefighting boots, turnout coats, turnout pants, or firefighting helmets.

- All personnel within ten (10) feet of the water's edge must be wearing a United States Coast Guard certified personal flotation device.
- Never attach anyone to a rope.
- If the incident dictates, place spotters upstream and downstream.
- If contact can be made with the victim, personnel not trained in advanced water rescue techniques may initiate the following rescue techniques:
 - A shore based reach
 - Makeshift aids
 - Pike pole
 - Ladder
 - Inflated hose
 - Aerial apparatus
 - Throw
 - Rope throw bag

6. Responsibilities

Technical Rescue will operate under the direction of the Emergency Operations Command and will be managed by a Technical Rescue Commander.

Technical Rescue Team Leader

- The station commander at the primary technical rescue station will be the manager of the technical rescue team, under the direction of the Technical Rescue Commander.
- Organization, training, equipment, and operations of the technical rescue team
- Chairing the Technical Rescue Team Committee, this will be comprised of a representative from each of the satellite companies.

Technical Rescue Team Committee

- Develop a yearly training program that meets the standards set forth by the NFPA and state and federal requirements



- Conduct a quarterly review of team member's training certifications
- Develop and evaluate technical rescue team standard operating guidelines
- Monitor the inventory of technical rescue services equipment
- Exploring various sources for funding

Technical Rescue Team Shift Coordinator

- Ascertain the daily technical rescue staffing and equipment levels.
- Technical training on their respective shift.
- Ensure that their supervisor and team members are apprised of potential events that may result in deployment of the technical rescue team.

Fire/EMS Training Academy Staff

Work in conjunction with the Technical Rescue Team to conduct annual refresher training and evaluations to ensure competency compliance.

Incident Commander and Division/Branch Supervisor

- Supervision and control of personnel under his/her command
- Safety and welfare of personnel under his/her command
- Verification that rescue techniques implemented are within the scope of responder's training and standards and federal and state regulations

Unit Officer

- Ensuring that personnel under their supervision have received technical rescue awareness training, and have reviewed and understand the procedures found within this General Order

- Ensuring that the personnel under their command do not operate outside of their scope of training.

Technical Rescue Team Member

- Provide the Technical Rescue Commander in charge of Technical Rescue with a copy of training records and certifications related to technical rescue training. These records will be utilized to document certified training, project future training needs, and ensure training is consistent with all standard and regulations.
- Working within the federal, state, and Departmental policies.

REFERENCES

NFPA 1670, Standard on Operations and Training for Technical Search and Rescue Incidents

NFPA 1006, Standard for Rescue Technician Professional Qualifications

Maryland Occupational Safety & Health, Code of Maryland Regulations 09.12.35

Occupational Safety & Health Administration 29Code of Federal Regulations 1910.146

FORMS/ATTACHMENTS

N/A



Division 09

Special Operations

Chapter 02 – Bomb Squad Response to Bombing/ Explosive Incidents

January 2010

POLICY

This General Order shall establish procedures to effectively utilize the Bomb Squad and Explosive Detection Canine Teams and to provide emergency response procedures for the Fire/ EMS Department personnel when responding to a bombing/ bomb threat or explosive related incident.

DEFINITIONS

Bomb Threat – any incident in which there has been nothing more than a communicated threat or statement about the use an explosive device, with the exception of vehicle threats. Threats to vehicles will be classified as a suspicious item.

Unidentified/Suspicious Item - an item or object that appears normal; however, may be unattended, unexpected or unidentifiable, or has

- suspected characteristics of an explosive device, or
- involves suspicious circumstances regarding the location, placement, or delivery of the item, or
- an individual has a reason to believe the item may be a confirmed device.

Confirmed Device – an item, which has been examined by a Bomb Technician and deemed to pose an explosive hazard or other harm.

Explosion or Post Detonation – any incident involving an explosion or the discovery of a device after it has detonated.

Bomb Squad Commander - The Bomb Squad will be commanded by an individual appointed by the Fire Chief. That individual is responsible for coordinating the administrative and operational duties of the Bomb Squad. This individual will normally serve as the “Bomb Group” officer on the scene on explosives related incidents. The radio designation for the Bomb Squad Commander is “Car 154”.

Assistant Bomb Squad Commander – The Assistant Bomb Squad Commander will be appointed by the Bomb Squad Commander and approved by the Fire Chief or his/her designee. This individual is designated to act on behalf of the Bomb Squad Commander in his/her absence or should the Bomb Squad need to be split into multiple teams for operational purposes. In addition, this individual will assist the Bomb Squad Commander with the administrative and operational duties of the Bomb Squad.

Bomb Technician – A Bomb Technician is an individual who has completed a specialized course of instruction through the Federal Bureau of Investigations Hazardous Devices School.

Team Member - The Bomb Squad consists of career personnel operating under the Fire/ EMS Department’s Office of Fire Investigations/ Homeland Security. These individuals are appointed by the Fire Chief. Each member of the Bomb Squad is required to meet fundamental training requirements, set forth by the Federal Bureau of Investigations Hazardous Devices School, in



order to maintain certification as a Bomb Technician. Specific training requirements and performance standards for Bomb Squad members will be established by the Bomb Squad Commander and approved by the Fire Chief or his/her designee.

Canine Team Coordinator - This individual will assist the Bomb Squad Commander with administrative duties related to the operation of the Explosives Detection Canine Teams (EDCT). This individual will coordinate the training activities of the EDCT. This individual will ensure that the requirements and procedures outlined by the Bomb Squad Commander are followed by all canine teams and will make monthly reports to him/her on the activities of the EDCT.

Explosive Detection Canine Team - An Explosives Detection Canine Team (EDCT) consist of a career canine handler and one canine that have successfully completed a course of instruction in scent discrimination and location work for explosives. These teams are appointed by the Fire Chief or his designee.

PROCEDURES

1. General Information

Mission

The Fire/EMS Department strives to improve the quality of life in Prince George's County by promoting safety, and providing the highest quality of fire prevention, fire protection, emergency medical services, and community outreach programs.

Vision

The actions of the Fire/EMS Department will be guided by an understanding of the needs of our customers, while we ensure the highest

commitment to safety, professionalism, integrity, and care.

2. Overview / Recognition

The Bomb Squad is a unit within the Office of Fire Investigations/ Homeland Security, which falls under the Fire Prevention Command.

3. Duties/ Responsibilities

Bomb Squad Duties and Responsibilities

- The Prince George's County Fire/EMS Department's Bomb Squad is responsible for the render safe and/or removal, transportation, storage and disposal of suspected or confirmed explosive devices, incendiary devices, explosives, explosive chemicals, pyrotechnics and unstable ammunition.
- The unit also works with the Hazardous Materials Team to provide support in the mitigation of chemical, biological or nuclear incidents.
- In addition, this unit also works in conjunction with the Fire Investigations unit in conducting post blast crime scene investigations, collection and preservation of bombing evidence, preparing and providing court testimony and providing technical support for special operations.

Bomb Technician Duties and Responsibilities

- Maintain proficiency with specialized bomb disposal tools and equipment.
- Prepare and participate in explosives related training programs.
- Develop agency emergency response plans for bomb threats, actual



improvised explosive devices and bombing crime scenes.

- Maintain professional liaison with other State and local Bomb Squads, military EOD units, Federal agencies and professional organizations.
- Provide protection support for dignitary visits and special events.
- Develop and deliver training programs to various outside agencies on explosives related topics.
- Compile and report technical data on explosive devices and incidents.
- Maintain familiarity with a library of technical publications and other explosives related material.
- Participate in community events and interact with the citizens to promote explosives safety awareness.

4. Incident Response Procedures

Notification/Dispatch

- Bomb Threat:
 - The on-duty Bomb Technician will be notified of the incident by Public Safety Communications.
 - The on-duty Bomb Technician will make contact with the appropriate individuals in order to evaluate the validity of the threat.
 - The on-duty Bomb Technician will determine the level of response, if any, to the incident and advise Public Safety Communications.
- Unidentified/Suspicious Item:
 - Public Safety Communications will notify the on-duty Bomb Technician and the appropriate Battalion Chief/Duty Officer

of the incident.

- The on-duty Bomb Technician will make contact with the appropriate individuals and/or respond to the scene in order to evaluate the unidentified/suspicious item.
 - The on-duty Bomb Technician will determine the level of response, if any, to the incident and advise Public Safety Communications.
- Confirmed Device (Pre-Detonation/Pre-Arrival of Bomb Squad):
 - Units will be dispatched by Public Safety Communications in accordance with General Order 03-11, Standard Response/Dispatch Procedures.
 - First Arriving Fire/EMS Units shall report to a location designated by the Bomb Squad "On Duty" Technician and establish a "Level II Staging" area for Fire Suppression and EMS units.
 - First Arriving Fire/EMS Units shall survey the designated area to ensure that it is in a safe location based on the evacuation distances listed in Attachment #1 *Explosives Threat Evacuation Distance Guide*.
 - Under no circumstances are personnel to approach the area of the suspect device without specific approval of the Bomb Squad Commander.
 - All personnel shall remain on the apparatus and await the arrival of the Fire Department Bomb Squad



- Suppression Personnel shall provide a pre-plan drawing and area map of the incident location to arriving Bomb Squad personnel.
- **Personnel should be aware of the possibility of secondary devices that target first responders.**
- Confirmed Device (Post-Detonation/ Pre-Arrival of Bomb Squad):
 - Should a detonation occur prior to the arrival of the Bomb Squad, or if units are initially dispatched for a reported explosion, personnel should take the following actions:
 - Survey the blast area for unsafe conditions from a protected area. Evacuate all people from the area and establish control zones
 - Wear full protective clothing and utilize Self-Contained Breathing Apparatus (SCBA) for any activities in the hot zone.
 - Conduct a rapid assessment to identify the potential for chemical, biological or radiological involvement.
 - Estimate the number of casualties and activate the mass casualty incident procedures.
 - Do not disturb any potential evidence. Protect and mark in place when possible.
 - **Personnel should be aware of the possibility of secondary devices that target first responders.**
- Other Explosion/Unconfirmed Device (Post- Detonation):
 - Units will be dispatched by Public Safety Communications in accordance with General Order 03-11, Standard Response/Dispatch Procedures. Assignments may be enhanced based on the information provided by the reporting person(s).
 - Command Officer shall report to the designated "Level II Staging" area for Fire Suppression and EMS units and ensure that the Incident Management System (IMS) is established in accordance with General Order 06-20, Incident Management System.
 - Under no circumstances are personnel to approach the area of the suspect device without specific approval of the Bomb Squad Commander.
 - Ensure that all personnel remain on their apparatus and await the arrival of the Fire Department's Bomb Squad.
 - **Personnel should be aware of the possibility of secondary devices that target first responders.**

5. Safety on Explosion Scenes

Structures that have sustained explosions are often more structurally damaged than a burned building. The possibility of a building collapse is much greater and should always be considered. In case of fuel, gas, or dust explosions, secondary explosions are the rule rather than the exception. Explosion scenes that involve bombing or explosives have added danger. Personnel should be aware of



secondary devices and undetonated explosives.

When an incendiary or explosive device is discovered that has not activated, do not move it! Bomb Squad personnel are the only personnel authorized to handle such devices. Touching or moving such device may result in an ignition or explosion. All devices should be considered to be active and dangerous until otherwise determined by a member of the Department's Bomb Squad. Every precaution should be taken to protect lives and property when dealing with an incendiary or explosive device.

6. Incident Management

Bombing/Explosive Incidents are to be treated as crime scenes, unless otherwise directed. Due to the sensitive nature of these incidents, and the likely response of many different agencies, a unified Command Post will most likely be established. The location of the Command Post will be coordinated with the ranking bomb technician and the incident commander. Under no circumstances shall the Command Post be within 300 feet of the suspected device of post blast scene. This distance shall be increased appropriately based on the type and nature of the threat in accordance with the Prince George's County Fire/EMS Department Explosive Threat Evacuation Guide.

To ensure that the potential crime scene is managed properly, and the lives of responding personnel are not endangered by secondary devices, etc., the ranking Bomb Squad Technician or Command Officer from the Fire Investigations/Homeland Security Office will be represented within the Unified Command Structure.





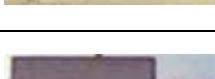


REFERENCES

N/A

FORMS/ATTACHMENTS

Prince George's County Fire/Emergency Medical Service (EMS) Department's Explosive Threat Evacuation Guide

Prince George's County Fire/EMS Department Explosives Threat Evacuation Distance Guide

	Threat Description		Explosives Mass1 (TNT equivalent)	Building Evacuation Distance2	Outdoor Evacuation Distance3
High Explosives (TNT Equivalent)		Pipe Bomb	5 lbs 2.3 kg	70 ft 21 m	850 ft 259 m
		Suicide Belt	10 lbs 4.5 kg	90 ft 27 m	1,080 ft 330 m
		Suicide Vest	20 lbs 9 kg	110 ft 34 m	1,360 ft 415 m
		Briefcase/Suitcase Bomb	50 lbs 23 kg	150 ft 46 m	1,850 ft 564 m
		Compact Sedan	500 lbs 227 kg	320 ft 98 m	1,500 ft 457 m
		Sedan	1,000 lbs 454 kg	400 ft 122 m	1,750 ft 534 m
		Passenger/Cargo Van	4,000 lbs 1,814 kg	640 ft 195 m	2,750 ft 838 m
		Small Moving Van/ Delivery Truck	10,000 lbs 4,536 kg	860 ft 263 m	3,750 ft 1,143 m
		Moving Van/Water Truck	30,000 lbs 13,608 kg	1,240 ft 375 m	6,500 ft 1,982 m
		Semi-Trailer	60,000 lbs 27,216 kg	1,570 ft 475 m	7,000 ft 2,134 m
		Semi-Tanker LPG	40,000 lbs/10,000 gal 18,144 kg/37,850 l	499 ft 152 m	1,996 ft 608 m

1 Based on the maximum amount of material that could reasonably fit into a container or vehicle. Variations possible.

2 Governed by the ability of an un-reinforced building to withstand severe damage or collapse.

3 Governed by the greater of fragment throw distance or glass breakage/falling glass hazard distance. These distances can be reduced for personnel wearing ballistic protection. Note that the pipe bomb, suicide belt/vest, and briefcase/suitcase bomb are assumed to have a fragmentation characteristic that requires greater standoff distances than an equal amount of explosives in a vehicle.



Division 09

Special Operations

Chapter 03 – Hazardous Materials Preparedness and Response

January 2010

POLICY

This General Order establishes the Prince George's County Fire/EMS Department's comprehensive preparedness and response program for Hazardous Materials (HAZMAT).

DEFINITIONS

Definitions are from the National Incident Management System (NIMS) glossary.

Biological Agent – Living organisms or the materials derived from them (such as bacteria, viruses, fungi, and toxins) that cause disease in or harm to humans, animals, or plants, or cause deterioration of material.

Bomb Squad/Explosives Teams – A public safety agency specializing in the investigation and disarming of suspected explosive devices.

Chemical/Biological (C/B) Protective Ensemble – A compliant vapor-protective ensemble that is also certified as being compliant with the additional requirements for protection against C/B warfare agents such as vapors, gases, liquids, and particulate.

Chemical Warfare Agent – A chemical substance (such as a nerve agent, blister agent, blood agent, choking agent, or irritating agent) used to kill, seriously injure, or incapacitate people through its physiological effects.

Decontamination – The physical or chemical process of reducing and preventing the spread of contaminants from persons and equipment

used at a hazardous materials (HAZMAT) incident.

Hazardous Materials (HAZMAT) – Any material that is explosive, flammable, poisonous, corrosive, reactive, or radioactive, or any combination thereof, and requires special care in handling because of the hazards it poses to public health, safety, and/or the environment. Any hazardous substance under the Clean Water Act, or any element, compound, mixture, solution, or substance designated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); any hazardous waste under the Resource Conservation and Recovery Act (RCRA); any toxic pollutant listed under pretreatment provisions of the Clean Water Act; any hazardous pollutant under Section 112 of the Clean Air Act; or any imminent hazardous chemical substance for which the administrator has taken action under the Toxic Substances Control Act (TSCA) Section 7. (Section 101[14] CERCLA)

Hazardous Material Response Team – An organized group of individuals that is trained and equipped to perform work to control actual or potential leaks, spills, discharges, or releases of HAZMAT, requiring possible close approach to the material. The team/equipment may include external or contracted resources.

Hazardous Materials Company – Any piece of equipment having the capabilities, personal protective equipment (PPE), equipment, and complement of personnel as specified in the Hazardous Materials



Company types and minimum capabilities. The personnel complement will include one member who is trained to a minimum level of assistant safety officer - HAZMAT.

Hazardous Materials Incident – Uncontrolled, unlicensed release of HAZMAT during storage or use from a fixed facility or during transport outside a fixed facility that may impact public health, safety, and/or the environment.

HAZMAT Task Force – A group of resources with common communications and a leader. A HAZMAT Task Force may be pre-established and sent to an incident, or formed at the incident.

HAZMAT Trained and Equipped. To the level of training and equipment defined by the Occupational Safety and Health Administration (OSHA) and the National Fire Protection Association (NFPA).

Personal Protective Equipment (PPE) – Equipment and clothing required to shield or isolate personnel from the chemical, physical, thermal, and biological hazards that may be encountered at a hazardous materials (HazMat) incident.

Release – Any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discharging of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant). (Section 101[22] CERCLA)

Vapor Protective Ensemble – A vapor protective ensemble or garment that is intended for use in an unknown threat atmosphere or for known high health risk atmospheres is vapor tight, and is in

compliance with National Fire Protection Association (NFPA) Standard 1991.

Weapons of Mass Destruction (WMD) – (1) Any destructive device as defined in section 921 of this title ("destructive device" defined as any explosive, incendiary, or poison gas, bomb, grenade, rocket having a propellant charge of more than 4 ounces, missile having an explosive or incendiary charge of more than 1/4 ounce, mine or device similar to the above); (2) any weapon that is designed or intended to cause serious bodily injury through the release, dissemination, or impact of toxic or poisonous chemicals, or their precursors; (3) any weapon involving a disease organism; or (4) any weapon that is designed to release radiation or radioactivity at a level dangerous to human life. (United States Code, Title 18-Crimes and Criminal Procedure, Part I-Crimes, Chapter 113B-Terrorism, Sec. 2332a)

Zone, Contamination Reduction (Warm Zone) – The area between the Exclusion Zone and the Support Zone. This zone contains the personnel decontamination station. This zone may require a lesser degree of personnel protection than the Exclusion Zone. This separates the contaminated area from the clean area and acts as a buffer to reduce contamination of the "clean" area. (U.S. Coast Guard Incident Management Handbook, 2001 edition)

Zone, Exclusion (Hot Zone) – The area immediately around a spill or release and where contamination does or could occur. The innermost of the three zones of a hazardous substances/material incident. Special protection is required for all personnel while in this zone. (U.S. Coast Guard Incident Management Handbook, 2001 edition)



Zone, Support (Cold Zone) – The "clean" area outside of the contamination control line. In this area, equipment and personnel are not expected to become contaminated. Special protective clothing is not required. This is the area where resources are assembled to support the hazardous substances/materials release operations. (U.S. Coast Guard Incident Management Handbook, 2001 edition)

designated as the primary County agency for Hazardous Materials Incident Response Operations, as it is the most likely first arriving and organized agency with the personnel and resources to contain, control, and/or resolve hazardous materials incidents. The hazardous materials incident management process utilized by the Fire/EMS Department shall include procedures for all of the following:

PROCEDURES

1. General Information

Hazardous materials pose a significant and potentially disastrous threat to Prince George's County. Hazardous materials incidents may include, but are not limited to, responses involving fires, spills, transportation accidents, chemical reactions, or explosions.¹ The hazards associated with these incidents could be thermal, radiological, asphyxiant, chemical, etiological, mechanical, or any combination of thereof.

The threat of weapons of mass destruction is important throughout the Washington Metropolitan Region. A comprehensive and coordinated response to these incidents has been undertaken by Prince George's County Fire/EMS Department and the other members of the Metropolitan Washington Council of Governments (COG). Even though weapons of mass destruction preparedness and response are considered a subset of the hazardous materials response process, they covered in General Order XXXX.

Under Prince George's County Executive Order 25-1987, the Fire/EMS Department is

1. Scene Management and Control
2. Identifying the Problem
3. Hazard and Risk Evaluation
4. Selecting Personal Protective Clothing and Equipment
5. Information Management and Resource Coordination
 1. Implementing Response Objectives
 2. Decontamination
 3. Termination and Documentation

2. HAZMAT Coordinator

The HAZMAT Coordinator manages the Fire/EMS Department HAZMAT/WMD Response program. The HAZMAT Coordinator ensures the HAZMAT Team metrics are satisfied. The HAZMAT Coordinator is the senior HAZMAT Team Leader during HAZMAT Responses.

3. HAZMAT Team Metrics

The Fire/EMS Department HAZMAT/WMD Response Program is designed to maintain this department's HAZMAT Team as a Type I HAZMAT Entry Team² under Emergency Support Function (ESF) #10 within the National Incident Management System (NIMS). A Type I HAZMAT Team must be able to perform the following metrics (as minimum capabilities):

¹ Responses to explosive incidents (i.e., improvised explosive devices – IEDs, munitions, etc.) are covered under Bureau of Fire Investigations Operational Order #3. This operational order may be implemented at the same time due to the nature of the incident.

² See FEMA Document 508-4, *Typed Resource Definitions – Fire and Hazardous Materials Resources*.



- a. Field Testing for Known Chemicals; Unknown Chemicals; and Known or Suspect Weapons of Mass Destruction Chemical/Biological Substances
 - The presumptive testing and identification of chemical substances using a variety of sources to be able to identify associated chemical and physical properties. Sources may include printed and electronic reference resources, safety data sheets, field testing kits, specific chemical testing kits, chemical testing strips, data derived from detection devices, and air-monitoring sources.
- b. Air Monitoring for Basic Confined Space Monitoring; Specific Known Gas Monitoring; and WMD Chem/Bio Aerosol Vapor and Gas
 - The use of devices to detect the presence of known gases or vapors. The basics begin with ability to provide standard confined space readings (oxygen deficiency percentage, flammable atmosphere Lower Explosive Limit [LEL], carbon monoxide, and hydrogen sulfide).
 - The use of advanced detection equipment to detect the presence of known or unknown gases or vapors. Advanced detection and monitoring may incorporate more sophisticated instruments that differentiate between two or more flammable vapors, and may directly identify by name a specific flammable or toxic vapor.
 - Advanced detection and monitoring includes WMD Chem/Bio detection Instruments.
- c. Sampling (Capturing, Labeling, Evidence Collection) for Known Industrial Chemicals; Unknown Industrial Chemicals; and WMD Chem/Bio
 - Known industrial chemicals standard evidence collection protocols required for each include capturing and collection, containerizing and proper labeling, and preparation for transportation and distribution, including standard environmental sampling procedures for lab analysis.
 - Consistent with established chain of custody protocols.
 - Known and unknown industrial chemicals standard evidence collection protocols.
 - Ability to sample liquid and solids.
 - Special resources may be required for air sample collection.
- d. Radiation Monitoring/ Detection for Alpha, Beta; and Gamma Detection
 - The ability to accurately interpret readings from the radiation-detection devices and conduct geographical survey search of suspected radiological source or contamination spread.
 - Basic criteria include detection and survey capabilities for alpha, beta, and gamma.
 - Identify and establish the exclusion zones after contamination spread (this does include identification of some, but not all, radionuclides).



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- Ability to conduct environmental and personnel survey.
 - Ensure all members of survey teams are equipped with accumulative self-reading instruments (dosimeters).
- e. Protective Clothing Ensembles for Liquid Splash-Protective CPC; Vapor-Protective CPC; Flash Fire Vapor-Protective CPC; and Weapons of Mass Destruction (WMD) Vapor-Protective CPC; WMD Liquid Splash-Protective CPC)
- Chemical Protective Clothing (CPC) includes complete ensembles (suit, boots, gloves) and may incorporate various configurations (encapsulating, non-encapsulating, jumpsuit, multi-piece) depending upon the level of protection needed.
 - Liquid Splash-Protective, which must be compliant with NFPA Standard 1992, Standard on Liquid Splash-Protective Ensembles and Clothing for Hazardous Materials Emergencies (current edition).
 - Vapor-Protective, Flash Fire Protective option for Vapor-Protective, and Chemical/Biological-Protective option for Vapor-Protective, all of which must be compliant with NFPA Standard 1991, Standard on Vapor-Protective Ensembles for Hazardous Materials Emergencies (current edition).
- f. Technical Reference (Printed and Electronic; Plume Air Modeling; Map Overlays, and WMD Chem/Bio)
- Access to and use of various databases, chemical substance data depositories, and other guidelines and safety data sheets, either in print format, electronic format, stand-alone computer programs, or data available via telecommunications. The interpretation of data collected from electronic devices and chemical testing procedures.
- g. Special Capabilities. Additional resources that augment the capabilities of the team. This includes:
- At a minimum, technical references will have the ability to outsource additional capabilities and have one source for air-modeling capability.
 - Gloves and other specialized equipment based on local risk assessment;
 - Heat sensing capability; light amplification capability; and
 - Digital imaging documentation capability.
- h. Intervention. Ability to implement the following techniques:
- Diking, Damming, Absorption. Employment of mechanical means of intervention and control such as plugging, patching, off-loading, and tank stabilization. Environmental means such as absorption, dams, dikes, and booms.
 - Liquid Leak Intervention, Neutralization, Plugging, Patching, and Vapor Leak Intervention. Chemical means such as neutralization and encapsulation of known and unknown chemicals. Mechanical means include specially designed kits for controlling leaks in



rail car dome assemblies and pressurized containers, to pneumatic and standard patching systems.

Responding to Hazardous Materials Incidents, as is appropriate for the specific team type.

- Advanced capabilities should include ability to intervene and confine incidents involving WMD Chem/Bio substances.
- i. Decontamination of Known Contaminants Based on Local Risk Assessment; Unknown Contaminants; and WMD Chem/Bio
- Must be self-sufficient to provide decontamination for members of their team.
 - Must be capable of providing decontamination for known and unknown contaminants and WMD Chem/Bio.
- j. Communications (In-Suit; Wireless Voice; Wireless Data; and Secure Communications)
- Personnel utilizing CPC shall be able to communicate appropriately and safely with one another and their team leaders
- k. Staffing (5 Personnel)
- l. Training
- All personnel must be trained to the minimum response standards in accordance with the most current editions of NFPA 471, Recommended Practice for Responding to Hazardous Materials Incidents, NFPA 472, Standard for Professional Competence of Responders to Hazardous Materials Incidents, and NFPA 473, Standard for Competencies for EMS Personnel

- m. Sustainability
- Capability to perform three (3) entries in a 24-hour period.

This general order is divided into three sections (Preparedness, Response, and Recovery).

4. Preparedness

The Fire/EMS Department HAZMAT/WMD Response Preparedness Program is designed to and involves the following:

Training – Comprehensive training program to ensure that responders are prepared to respond to hazardous materials and weapons of mass destruction emergencies incidents safely and effectively. See Addendum 1 for training requirements.

Equipment/Techniques – Provide specialized equipment and techniques to effectively manage and control hazardous materials and weapons of mass destruction emergencies.

All response units in the Prince George's County Fire/EMS Department may be called upon to respond to an incident involving hazardous materials. As such, the following minimum equipment standards are established in Addendum 2 to this General Order. Equipment requirements should meet minimum capabilities of a Type I HAZMAT Team.

Planning – Pre-Incident Planning, Inspection, and Enforcement program designed to anticipate and reduce the probabilities, risks, and impact of hazardous materials or weapons of mass destruction emergencies.



The HAZMAT Coordinator is responsible to maintain a list of facilities and locations that use, store, or manufacture hazardous materials in quantities that exceed the threshold planning quantity (TPQ) as defined by the EPCRA regulations.³ A list of these facilities (within each first-due) is sent to each fire station. Each first-due company is responsible for developing a pre-plan using departmental format.

The HAZMAT Coordinator will identify designated facilities that could be considered high-risk targets for terrorism and require pre-incident plans. The Primary Hazardous Materials Company will pre-plan these facilities for typical fire emergencies and for mass decontamination, mass casualty care, and hazardous materials response.

These pre-plans will be updated and forwarded on an annual basis to the HAZMAT Coordinator and the Primary Hazardous Materials Company. Each of these pre-plans will be made available on the computer systems on the primary hazardous materials response unit and PSC-1. Printed copies will be made available to first due companies and Battalion Chiefs.

Inspection and Enforcement – Fire Inspectors from the Fire Prevention Office will accompany first due station personnel during the pre-planning and inspection process, upon request. Fire code concerns will be addressed using normal fire code enforcement procedures.

5. Response – Dispatch Procedures

Dispatch procedures will follow the guidance set forth in Addendum 3 to this general order.

³ List is developed from submitted Tier II facility documents to comply with the Emergency Planning and Community Right-to-Know Act (EPCRA).

6. Operational Procedures

All hazardous materials responses will use the National Incident Command System to safely, effectively, and efficiently address all of the following steps of the Hazardous Materials Incident Management Process (Noll, Hildebrand, Yvorra, 2005):

1. Scene Management
2. Recognition and Identification
3. Hazard and Risk Assessment
4. Selection of Protective Clothing
5. Information and Resource Coordination
6. Execute Response Objectives
7. Decontamination
8. Termination and Documentation

Note: This procedure is written for general response to hazardous materials incidents. Although this guidance is relevant and effective, specific procedures have been developed for those incidents that are most common, such as Natural Gas Emergencies, Fuel Spills, and Carbon Monoxide incidents.

First Arriving Unit and Initial Command Officer

The initial units are responsible to initiate the Hazardous Materials Incident Management Process as described in this General Order.

ALL Other Operations Level Companies

All other responding units are to report to the staging area designated by the initial and subsequent incident commander and await further assignment and instructions. The operational procedures set forth by General Order 3-1 are not appropriate for an initial hazardous materials response.



Hazardous Materials Technician Level Companies

Hazardous Materials Companies are responsible to support the initial operations on the scene prior to their arrival with technical advice. Upon arrival they will provide guidance and specialized tactics necessary to address the hazards found.

Operations Level Companies

The first arriving unit and resulting command should consider the following response priorities during any hazardous materials response. Operations Level Companies concentrate their efforts on the first three steps of the Hazardous Material Incident Management Process. These steps are most critical to the life safety of responders, the public in general, and any victims present on the scene. The Incident Commander assigns units to specific tasks and roles. The incident commander must consider responder safety and the limitations of protective equipment and training when making these assignments.

Scene Management and Control

- Approach the scene cautiously from an upwind and uphill direction
- Establish Incident Command System (ICS)
- Establish safe staging area for other responding units
- Request additional resources, as necessary
- Isolate an initial Hot Zone and deny entry
- Establish emergency decontamination procedures for affected victims
- Initiate public protective actions (Evacuation or Shelter-in-Place)
- Establish triage, treatment, and transportation groups and areas.
- Establish other hazard control zones (Warm and Cold)

- Maintain responder safety and accountability

Recognition and Identification of the Problem from a Safe Distance

- Attempt to identify Material(s) involved using:
 - Container Shapes
 - Markings and Colors
 - Placards and Labels
 - Shipping Papers/Facility Documents/MSDS
 - Drivers/Subject Matter Experts
 - Monitoring and Detection Devices
 - Senses of Victims/Signs and Symptoms
- Assess container(s) involved
 - Size(s)
 - Pressure
 - Materials of construction
 - Relief devices
 - Breaches, Leaks, or Openings
- Conduct Defensive Reconnaissance

Hazard and Risk Assessment

- Assess potential hazards
 - Thermal
 - Radiological
 - Asphyxiant
 - Corrosive
 - Etiological (Biological)
 - Mechanical
 - Poisonous
- Anticipate potential course and harm of the incident
- Develop initial Incident Action Plan
 - Defensive
 - Non-Intervention

Selection of Protective Clothing

- Evaluate proper Protective clothing for the material and potential hazards
 - Understand the limitations and capabilities of Structural Fire



- Fighter Protective Clothing and Self-Contained Breathing Apparatus
- Understand the appropriateness of higher levels of chemical protective clothing
 - Ensure proper application of protective clothing prior to incident operations

Information and Resource Coordination

- Incident Command
 - Unified Command
 - Expanded to address operational needs (HAZMAT Group, Protection Group, Suppression Group, etc.)
- Notifications

Execute Response Objectives

- Life Safety
 - Offensive — Assess the viability of victims versus the limitations of PPE available; conduct emergent rescue of victims, only if reasonable to do so.
 - Defensive — Remove ambulatory victims from Release area, conduct emergency decontamination, and perform Triage, Treatment, and Transport.
 - Non-Intervention — If you can't change the outcome, don't get involved.
- Incident Stabilization
 - Defensive Product Control — Perform actions in accordance with limitations of training and protective clothing
 - Non-Intervention — If you can't change the outcome, don't get involved.
- Property Conservation
 - Defensive Product Control — Perform actions in accordance

- with limitations of training and protective clothing
- Non-Intervention — If you can't change the outcome, don't get involved.
- Environmental Protection
 - Defensive Product Control — Perform actions in accordance with limitations of training and protective clothing
 - Non-Intervention — If you can't change the outcome, don't get involved.
- **Atmospheric Monitoring**
 - Defensive — Area Monitoring
- **Decontamination**
 - Continue Emergency Mass Casualty Decontamination
- **Termination**
 - Personnel Accountability
 - Incident Scene Debriefing
 - Documentation
 - Equipment replacement and servicing
 - Critique

Technician Level Companies/Hazardous Materials Response Team

The first arriving technician level unit will be responsible to provide technical advice and incident action planning to the Incident Commander. Technician level companies are trained and equipped to perform offensive tactics to address all response objectives: Life Safety, Incident Stabilization, Property Conservation, and Environmental Preservation. Technician level companies will create a Hazardous Materials Branch or Group within the existing Incident Command Structure. The Hazardous Materials Group will provide adequate information and updates to the Incident Commander.



Scene Management and Control

- Approach the scene cautiously from an upwind and uphill direction
- Coordinate with Incident Command
 - Establish a Hazardous Materials Branch or Group with the Incident Command Structure
 - Determine a safe staging and operational location for hazardous materials branch/group personnel in the Warm Zone
 - Exchange Information
- Request appropriate resources to address hazardous materials tactical objectives
 - Engine Company to support technical decontamination
 - Special Service Company for support operations
 - Hazardous Materials Technician personnel for offensive measures
 - Medic Unit for medical monitoring
- Verify safe staging area and unit positioning
- Verify safe staging area
- Verify initial Hot Zone and control measures
- Enhance/Support emergency decontamination procedures on affected victims
- Verify public protective actions (Evacuation or Shelter-in-Place)
- Verify other hazard control zones (Warm and Cold)
- Maintain responder safety and accountability

Recognition and Identification of the Problem from a Safe Distance

- Attempt to Identify Material(s) Involved
 - Occupancy, Location, and Pre-Incident Plans
 - Container Shapes

- Markings and Colors
- Placards and Labels
- Shipping Papers, Facility Documents, and MSDSs
- Drivers/Subject Matter Experts
- Monitoring and Detection Devices (Including for potential Weapons of Mass Destruction)
- Senses of Victims/Signs and Symptoms
- Assess container(s) involved
 - Size(s)
 - Pressure
 - Materials of construction
 - Relief devices
 - Breaches, Leaks, or Openings
- Conduct Offensive or Defensive Reconnaissance

Hazard and Risk Assessment

- Assess potential hazards
 - Thermal
 - Radiological
 - Asphyxiant
 - Corrosive
 - Etiological (Biological)
 - Mechanical
 - Poisonous
- Anticipate potential course and harm of the incident
- Develop initial Incident Action Plan
 - Offensive
 - Defensive
 - Non-Intervention

Selection of Protective Clothing

- Evaluate proper protective clothing for the material and potential hazards
 - Select Proper Chemical Protective Clothing Level
 - Select Proper Chemical Protective Clothing Ensemble
- Ensure proper application of protective clothing prior to incident operations



Information and Resource Coordination

- Incident Command
 - Unified Command
 - Expanded to address operational needs (i.e., HAZMAT Group, Protection Group, Suppression Group, etc.)
- Notifications

Execute Response Objectives

- Life Safety
 - Offensive — Assess the viability of victims vs. the limitations of PPE available; conduct emergent rescue of victims, only if reasonable to do so.
 - Defensive — Remove ambulatory victims from release area, conduct emergency decontamination, and perform Triage, Treatment, and Transport.
 - Non-Intervention — If you can't change the outcome, don't get involved.
- Incident Stabilization
 - Offensive — Perform actions in accordance with limitations of training and protective clothing
 - Defensive Product Control — Perform actions in accordance with limitations of training and protective clothing
 - Non-Intervention — If you can't change the outcome, don't get involved.
- Property Conservation
 - Defensive Product Control — Perform actions in accordance with limitations of training and protective clothing
 - Non-Intervention — If you can't change the outcome, don't get involved.
- Environmental Protection
 - Defensive Product Control — Perform actions in accordance

with limitations of training and protective clothing

- Non-Intervention — If you can't change the outcome, don't get involved.

- Ensure proper Rapid Intervention Team
 - Properly Protected and Equipped
- Ensure Preparation for Entry Team(s)
 - Briefing
 - Objectives
 - Safety Procedures
 - Decontamination
- Atmospheric Monitoring

Decontamination

- Initiate Emergency Mass Casualty Decontamination
- Ensure technical decontamination is available prior to Entry Operations
- Monitoring
- Disposal
- **Termination**
 - Personnel Accountability
 - Incident Scene Debriefing
 - Documentation
 - Equipment replacement and servicing
 - Critique

REFERENCES

All Hazardous Materials response operations coordinated by the Prince George's County Fire/EMS Department will be conducted in accordance with the rules and regulations for operations in such situations, as established in the OSHA and national consensus standards listed in the reference section.

1. OSHA 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response (HAZWOPER)



2. 29 CFR 1910.134, Respiratory Protection
3. NFPA 471, Recommended Practice for Responding to Hazardous Materials Incidents
4. NFPA 472, Standard for Professional Competence of Responders to Hazardous Materials Incidents
5. NFPA 473, Standard for Professional Competence of EMS Personnel to Hazardous Materials Incidents
6. NFPA 1500, Standard on Fire Department Occupational Safety and Health Program
7. NFPA 1991, Standard on Vapor-Protective Ensembles for Hazardous Materials Emergencies
8. NFPA 1993, Standard on Liquid Splash-Protective Ensembles for Hazardous Materials Emergencies
9. NFPA 1994, Standard on Protective Ensembles for Chemical/Biological Terrorism Incidents
10. FEMA Document 508-4, Typed Resource Definitions – Fire and Hazardous Materials Resources.

FORMS/ATTACHMENTS

Addendum 1- Training

Addendum 2- Minimum Equipment Requirements

Addendum 3- Dispatch Procedures



Addendum 1 - Training

All hazardous materials training is provided through formal curriculum programs and regular drills and exercises designed to maintain competence with all related equipment and procedures. All hazardous materials training is intended to meet the requirements of OSHA Part 29 CFR 1910.120 and NFPA 472 and 473.

All Fire/EMS Department personnel must be trained to one of the following levels:

First Responder at the Operational Level (HAZMAT Operations)

First responders at the operational level are those persons who respond to releases or potential releases of hazardous materials as part of the initial response to the incident for the purpose of protecting nearby persons, the environment, or property from the effects of the release. They should be trained to respond in a **defensive** fashion to control the release from a safe distance and keep it from spreading. (NFPA 472)

Personnel:

- All personnel (career and volunteer) that may discover, investigate, or respond to a hazardous materials incident must maintain Hazardous Materials Operations level training.

Initial Training Requirements:

- Approximately 24 hours of training in compliance with 29 CFR 1910.120 and NFPA 472.
- WMD Awareness/Operations Level Training

Certification Recommended:

- Maryland State Fire Service Professional Qualifications Board (MFSPQB),
- National Board on Fire Service Professional Qualifications (Pro Board), or
- International Fire Service Accreditation Congress (IFSAC)

Continuing Education/Refresher Requirements:

- Annual Regulatory Competency Requirement: Minimum 4 hours

Hazardous Materials Technician (HAZMAT Tech)

Hazardous materials technicians are those persons who respond to releases or potential releases of hazardous materials for the purpose of controlling the release. Hazardous materials technicians are expected to use specialized chemical protective clothing and specialized control equipment. (NFPA 472)

Personnel:

- Hazardous Materials Technician Level personnel and response equipment are maintained at the stations assigned with the Hazardous Materials Support Units.

Initial Training Requirements:

- First Responder Operations Level training, plus approximately 40 hours of training in compliance with 29 CFR 1910.120 and NFPA 472 at the Hazardous Materials Technician Level.



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- WMD HAZMAT Technician Enhancement Training (need to define what training is required and from where)

Certifications Recommended:

- Maryland State Fire Service Professional Qualifications Board (MFSPQB),
- National Board on Fire Service Professional Qualifications (Pro Board), or
- International Fire Service Accreditation Congress (IFSAC)

Continuing Education/Refresher Requirements:

- Annual Regulatory Competency Requirement: Minimum 16 hours
- Participation in at least one Hazardous Materials Response Drill per quarter
- Participation in at least one Hazardous Materials Exercise per year.

Credentialing: All Technician Level personnel are identified through appropriate credentials issued by the Fire Chief. This shall include identification cards and helmet designations.

Primary Hazardous Material Company and Response Team

Personnel:

- These personnel are either assigned to the Primary Hazardous Materials Response Unit or otherwise selected to participate as a HAZMAT Response Team Member through a competitive selection process.

Pre-requisite Training Requirements:

- Completion of Technician Level training as specified above.

Certifications Required:

- Maryland State Fire Service Professional Qualifications Board (MFSPQB),
- National Board on Fire Service Professional Qualifications (Pro Board), or
- International Fire Service Accreditation Congress (IFSAC)

Initial Training Requirements:

- HAZMAT Response Team Indoctrination Training – Approximately 80 hours
- WMD HAZMAT Technician Enhancement Training

Initial Training Recommendations:

- NFA – Chemistry of Hazardous Materials or Chemistry for Emergency Response
- NFA – Hazardous Materials Operating Site Practices (or similar training from a recognized training program)

Continuing Education/Refresher Requirements:

- Annual Regulatory Competency Requirement: Minimum 32 hours
- Participation in at least one Hazardous Materials Response Drill per month
- Participation in at least two Hazardous Materials Exercises per year.



Credentialing: All Technician Level personnel are identified through appropriate credentials issued by the Fire Chief. This shall include identification cards and helmet designations.

Hazardous Materials Response Team Leaders

Designated Hazardous Materials Response Team Leaders are responsible to supervise and control of hazardous materials personnel and equipment. They are specially trained to interface with Incident Command and other agencies to ensure safe and effective incident solution is achieved.

Personnel:

- Senior members of Hazardous Materials Response Team with at least 5 years hazardous materials response experience.

Training:

- Same as above, for Hazardous Materials Response Team Members
- Hazardous Materials Incident Commander Certification

Continuing Education/Refresher Requirements:

- Annual Regulatory Competency Requirement: Minimum 42 hours
- Participation in at least one Hazardous Materials Response Drill per month
- Participation in at least two Hazardous Materials Exercises per year.

Credentialing: All Hazardous Materials Response Team Leaders are identified through appropriate credentials issued by the Fire Chief. This shall include identification cards and helmet designations.

Hazardous Materials Incident Commanders

Incident Commanders who will assume control of the incident scene beyond the first responder awareness level must receive specific HAZMAT Incident Commander training.

Initial Training Requirements:

- Approximately 24 hours of training in compliance with 29 CFR 1910.120 and NFPA 472.
- WMD Awareness/Operations Level Training

Certification Recommended:

- Maryland State Fire Service Professional Qualifications Board (MFSPQB),
- National Board on Fire Service Professional Qualifications (Pro Board), or
- International Fire Service Accreditation Congress (IFSAC)

Continuing Education/Refresher Requirements:

- Annual Regulatory Competency Requirement: Minimum 4 hours

Credentialing: All Hazardous Materials Incident Commanders are identified through appropriate credentials issued by the Fire Chief.

Refresher Training



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All refresher training must be approved by the HAZMAT Coordinator and meet 29 CFR 1910.120(q)(6) and NFPA 472/473 requirements.



Addendum 2 - Minimum Equipment Requirements

Primary Hazardous Materials Response Unit

Site Management and Control

- Barrier Tape
- Traffic Cones

Recognition and Identification

- Cell Phone for immediate contact with technical experts/resources
- Wireless Internet Service for internet based reference searches
- Various Electronic Databases
- Various Printed Reference Materials
- Binoculars

Detection and Monitoring

- Atmospheric Monitoring – 4 Gas (O₂, CO, LEL, H₂S) with Photoionization Detector
- Remote Atmospheric Monitoring
- Colorimetric Test Materials
- Ion Mobility Spectrometer
- Sound Acoustic Wave Detector
- Infrared Spectrometer
- RAMAN Spectrometer
- Radiation Detection
- Radiation Dosimeters

Protective Clothing

- Level A Protective Ensembles
- Level B Protective Ensembles
- Level C Protective Ensembles with Powered Air Purifying Respirators
- Level C Protective Ensembles with Air Purifying Respirators
- Structural Fire Fighter Protective Clothing with SCBA
- Flash Fire Protective Coveralls

Specialized Equipment and Techniques

- Offensive Product Control Equipment (i.e., Transfer Pumps and Equipment and Chlorine Response Kits)
- Defensive Product Control Equipment (Absorbent, Pads, Absorbent Boom, Barrier Boom, Hand Tools)

Decontamination

- Mass Casualty Decontamination System with Triage Equipment
- Technical Decontamination

Hazardous Materials Support Units

Site Management and Control

- Barrier Tape

Recognition and Identification



- Binoculars
- Additional Printed Reference Materials

Detection and Monitoring

- Atmospheric Monitoring – 4 Gas (O₂, CO, LEL, H₂S) with Photoionization Detector
- Colorimetric Test Materials
- Radiation Detection
- Radiation Dosimeters

Protective Clothing

- Level B Protective Ensembles
- Level C Protective Ensembles with Air Purifying Respirators
- Structural Fire Fighting Protective Clothing with SCBA

Specialized Equipment and Techniques

- Offensive Product Control Equipment (i.e., Transfer Pumps and Equipment)
- Defensive Product Control Equipment (Absorbent, Pads, Absorbent Boom, Barrier Boom, Hand Tools)

Decontamination

- Mass Casualty Decontamination System with Triage Equipment
- Technical Decontamination

Operations Level Suppression Units

Site Management and Control

- Binoculars
- Barrier Tape

Recognition and Identification

- North American Emergency Response Guidebook

Detection and Monitoring

- Atmospheric Monitoring – 3 Gas (O₂, CO, LEL)
- Radiation Detection

Protective Clothing

- Structural Fire Fighting Protective Clothing with SCBA

Specialized Equipment and Techniques

- Defensive Product Control Equipment (Cellulose Absorbent, Clay Adsorbent, Hand Tools)

Decontamination

- Emergency Mass Casualty Decontamination Techniques

Other Operations Level Response Units

Site Management and Control

- Binoculars
- Barrier Tape

Recognition and Identification

- North American Emergency Response Guidebook



Addendum 3 – Dispatch Procedures

Hazardous Materials Service Call

Units are dispatched to investigate and evaluate suspicious materials, substances, or mail items, this small response allows for the incident to be safely evaluated without inciting panic. These incidents require the specialized resources of the Hazardous Materials Units, without the fire suppression or EMS response. **Note: Bomb technicians will also be notified if packages presents or could present and explosive hazard.**

Dispatch:

- One (1) HAZMAT Unit (Primary or Support)

Notify:

- Primary Hazardous Materials Unit
- Hazardous Materials Team Coordinator
- Hazardous Materials Team Leaders

Hazardous Materials Local Assignment

Units are dispatched to investigate incidents involving the suspicion of a hazardous material release or small incidents involving hazardous materials commonly known (e.g., gasoline, fuel oil, diesel, etc.). This assignment is also used to investigate reports of potential incidents such as abandoned or discarded hazardous material containers with no evidence of a release.

- Dispatch Guidance
- Occupancies: Exterior, no exposures
- Automotive Fluids: Small Vehicles (< 5 tons GVW)
- Carbon Monoxide: Detector activation, no signs and symptoms

Additional Dispatch Guidance (NFPA 471):

Incident Conditions	Information Available/Findings
Product Identification	No placards or labels, NFPA 704 0 or 1 all categories
Container Size	Small (Drum, Pail, Bag, Cylinder (<55 gal))
Fire/Explosion Potential	Low
Leak Severity	No known release, or small release contained with available resources
Life Safety	No known life threatening situation
Environmental Impact	Minimal
Container Integrity	Not Damaged or slightly damaged, not getting worse

Dispatch:

- Closest Suppression Company (Engine, Truck or Squad)



Notify:

- Primary Hazardous Materials Unit
- Hazardous Materials Team Coordinator
- Hazardous Materials Team Leaders

HAZMAT Street Assignment

Units are dispatched to investigate and address:

- Unconfirmed presence or release of a hazardous material with possible victims
- Small incidents involving unknown hazardous materials
- Large incidents involving specific known hazardous materials.

Dispatch Guidance

- Occupancies: Residential or exterior with exposures
- Automotive Fluids: Large Vehicles (greater than 5 tons GVW)
- Propane (LPG): Less than or equal to 40 pounds (fork lift bottle)
- Carbon Monoxide: Detector activation w/ signs and symptoms, or signs and symptoms in more than one person.

Additional Dispatch Guidance (NFPA 471):

Incident Conditions	Information Available/Findings
Product Identification	Any placards or labels found, NFPA 704 2 in any category
Container Size	Medium Small Tanks Multiple packages (Drum, Pail, Bag, Cylinder (<55 gal))
Fire/Explosion Potential	Medium
Leak Severity	Release may not be controllable with available resources
Life Safety	Limited to the building or local area, limited evacuation
Environmental Impact	Moderate
Container Integrity	Damaged but will allow handling or transfer

HAZMAT Street Assignment requires:

Dispatch:

- Two (2) Engine Companies
- One (1) Special Service Company
- One (1) HAZMAT Unit
- One (1) BLS Ambulance
- One (1) ALS Medic Unit
- One (1) Command Officer
- One (1) AEMS Supervisor

Notify:



- Hazardous Materials Team Coordinator
- Hazardous Materials Response Team Leaders
- Primary Hazardous Materials Unit

HAZMAT Task Force

The HAZMAT Task Force assignment is intended to provide the necessary resources to an incident to evaluate a possible release or exposure to a hazardous material. This assignment is used in addition to any initial dispatch if there is reported or suspected involvement with hazardous materials.

The HAZMAT Task Force may be requested by the incident commander to evaluate the potential that there are hazardous materials present on the scene of any incident or to respond to the scene of an incident that requires additional specialized consultation, knowledge, or resources.

Units on the HAZMAT Task Force will evaluate and identify any hazardous materials present and control hazardous run-off. If additional HAZMAT resources are required to safely mitigate the situation, the incident can be escalated as necessary.

The intent of this assignment is to provide the resources necessary to populate a complete HAZMAT Group within the established Incident Command System.

Dispatch:

- Two (2) Engine Companies
- One (1) Special Service Company
- One (1) HAZMAT Support Unit
- One (1) Primary Hazardous Materials Unit
- One (1) BLS Ambulance, if not already assigned to the incident
- One (1) ALS Medic Unit, if not already assigned to the incident
- One (1) Command Officer, if not already assigned to the incident
- One (1) AEMS Supervisor, if not already assigned to the incident

Notify:

- Hazardous Materials Team Coordinator
- Hazardous Materials Response Team Leaders

Hazardous Materials Box Alarm

Units are dispatched to:

- Confirmed presence and possible release of a hazardous material with possible victims
- Confirmed release of any hazardous material greater than 100 gallons
- Incident suspected to involve weapons of mass destruction

Additional Dispatch Guidance (NFPA 471):



Incident Conditions	Information Available/Findings
Product Identification	Class 1, Division 1.1 or 1.2 – Explosives Class 2, Division 2.3 – Poison Gases, Class 4 – Flammable Solid, Dangerous when Wet Class 5, Division 5.1 – Organic Peroxides Class 7 – Radioactive Materials Cryogenic Materials NFPA 704 3 or 4 in any categories Suspected WMD Event
Container Size	Large Bulk Transport Containers: Tank Cars, Tank Trucks, multiple containers
Fire/Explosion Potential	High
Leak Severity	Release may not be controllable even with special resources
Life Safety	Large evacuation area, Large number of evacuees
Environmental Impact	Severe
Container Integrity	Damaged so that catastrophic failure may be possible

A HAZMAT Box Assignment shall consist of the following units:

Typical Street Alarm

- Two (2) Engine Companies
- One (1) Special Service Company
- One (1) Command Officer

With a HAZMAT Task Force

- Two (2) Engine Companies
- One (1) Special Service Company
- One (1) HAZMAT Support Unit
- One (1) Primary Hazardous Materials Unit
- One (1) BLS Ambulance
- One (1) ALS Medic Unit
- One (1) Command Officer
- One (1) AEMS Supervisor
- Hazardous Materials Team Coordinator
- Hazardous Materials Response Team Leaders

Notify:

- Hazardous Materials Team Coordinator
- Hazardous Materials Response Team Leaders

HAZMAT Response Team Dispatch



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The off-duty personnel and/or assigned to other positions on-duty the Hazardous Materials Response Team shall be dispatched on the discretion of the Incident Commander on the scene in consultation with a HAZMAT Team Leader.

The HAZMAT Response Team shall require the following in addition to the resources already assigned to the incident:

Notify:

- Hazardous Materials Response Team
- Hazardous Materials Team Coordinator
- Hazardous Materials Response Team Leaders

Additional Resources

Since Hazardous Materials incidents can develop into large and complex command structures, the Incident Commander should also consider the following additional resources:

- Command Unit (PSC-1) – Long duration incidents or complex command structures
- Air Unit – If entry operations are undertaken by the Hazardous Materials personnel
- Foam Unit – If flammable liquids are present
- Canteen Unit – Long duration incidents



Division 09

Special Operations

Chapter 04 - Sorbent Replenishment Procedures

January 2010

POLICY

To establish standard operational guidelines for the use and replenishment of sorbent materials used at petroleum spills

DEFINITIONS

Sorbent - material provided to adsorb or absorb spilled petroleum materials. There are a wide variety of sorbent materials commercially available.

MDE – Maryland Department of the Environment.

Sorbent Stockpile – minimum inventory of 70 bags of sorbent material stored in specific stations. Sorbent stockpiles are maintained to ensure the availability of additional sorbents for use at emergencies and for resupply of sorbents to apparatus following its use.

PROCEDURES

1. General Guidelines

Sorbent materials are provided to the Department on a periodic basis by the Maryland Department of the Environment (MDE). These sorbents are typically cellulose based sorbents design to absorb petroleum materials and repel water. These sorbents remain the responsibility of MDE and their use must be documented to ensure accountability for reimbursement and regulatory enforcement.

2. Requests for Additional Sorbent at Emergency Scenes

When additional sorbent materials are required at an emergency incident the Incident Commander shall request these materials through Public Safety Communications (PSC). The approximate number of bags of sorbent should be included in the request.

Sorbent is delivered directly to the emergency scene. A Spill Report form shall be completed, to include the incident number, quantity of sorbent delivered, and location of the incident. The Incident Commander or designated representative shall sign for sorbent on the scene.

3. Replenishing Sorbents

Sorbents can be replenished from the closest sorbent stockpile upon termination of the incident. It is the responsibility of the station requesting the sorbent to pick it up from the stockpile. Personnel from the stockpile station shall ensure that a completed MDE Spill Report is collected from the station requesting the sorbent to ensure accountability.

4. Stockpile Locations

Quantities of sorbent are available at the following stations:

- Station 827 – 70 bags
- Station 831 – 70 bags
- Station 843 – 70 bags

Additional quantities of sorbent are located at Stations 830, 841, and 845. These inventories are to ensure the availability of sorbents for



restocking the hazardous materials response vehicles and shall not be utilized to replenish other apparatus.

5. Replenishing Stockpiles

It shall be the responsibility of the station where the sorbent stockpile is located to ensure that inventories are maintained and shall request additional sorbents when the stockpile reaches 35 bags. Sorbent shall be requested from the Hazardous Materials Coordinator. Stations shall provide completed MDE spill to the Hazardous Materials Coordinator when replenishing sorbent stockpiles.

The Hazardous Materials Coordinator or designated representative shall be responsible for coordination with MDE to ensure the continued availability of State supplied sorbents.

REFERENCES

N/A

FORMS/ATTACHMENTS

MDE Spill Report

MARYLAND DEPARTMENT of the ENVIRONMENT
 1800 WASHINGTON BOULEVARD
 BALTIMORE, MARYLAND. 21230
 (410) 537-3000
 1-800-633-6101 (within Maryland)
 http://www.mde.state.md.us



State of Maryland
 Department of the Environment
 Emergency Response Division
 1800 Washington Blvd. Suite #105
 Baltimore, Maryland. 21230-1721





24 HOUR SPILL REPORTING
 (Toll Free) 1-866-633-4686
 EMERGENCY RESPONSE OFFICE
 (410) 537-3975
 RESPONSE OFFICE FACSIMILE
 (410) 537-3932

PURSUANT TO THE PROVISIONS OF STATE LAW AND REGULATION; (COMAR 26.10.01.03) "A PERSON DISCHARGING OR PERMITTING THE DISCHARGE OF OIL, OR WHO EITHER ACTIVELY OR PASSIVELY PARTICIPATES IN THE DISCHARGE OR SPILLING OF OIL, EITHER FROM A LAND BASED INSTALLATION, INCLUDING VEHICLES IN TRANSIT, OR FROM ANY VESSEL SHIP OR BOAT OF ANY KIND, SHALL REPORT THE INCIDENT IMMEDIATELY TO THE ADMINISTRATION." " THE REPORT OF AN OIL SPILL OR DISCHARGE SHALL BE MADE TO THE ADMINISTRATION IMMEDIATELY, BUT NOT LATER THAN TWO HOURS AFTER DETECTION OF THE SPILL." *** FIRE DEPARTMENT PERSONNEL . SEE REVERSE ***

ADC Map Coord _____ Date of spill: Mo. ___ / Day ___ / Yr. 20 ___ Time of spill: ___ : ___ : ___ Hours (24 hour clock)
 Fire Department Report No.: _____ Police Department Report No.: _____

Location of spill - Street address: _____ _____ City / Town _____ MD County _____ Zip _____	Product Name: _____ <small>(Indicate Gasoline, Diesel, Heating Oil, Chemical Name or UN ID etc.)</small> Container Type: _____ <small>(Indicate AST, UST, Transformer, Saddle Tank, Drum etc.)</small>	Capacity of Vessel, Vehicle or Tank: _____ Gallons Amount <u>IN</u> Vessel, Vehicle or Tank: _____ Gallons Estimated Amount Spilled: _____ Gallons
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Transportation Incident: _____ <small>(Indicate Type of Auto, Truck, Train, Aircraft or Watercraft etc.)</small> Fixed Facility Incident: _____ <small>(Indicate Type of Industrial, Commercial, Residential etc.)</small>	<input type="checkbox"/> Contained on Land <input type="checkbox"/> Entered Storm Drain or Ditch <input type="checkbox"/> Entered Sanitary Sewer <input type="checkbox"/> Is Below Ground <input type="checkbox"/> Entered surface waters: _____ 	Vehicle Tag Number and State: _____ DOT or ICC MC Number: _____ Hull Numbers and Name: _____
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Person(s) Responsible for Spill: (Driver if Vehicle) Name: _____ Address: _____ City/State: _____ Zip: _____ Phone: _____ Drivers Lic.No. _____ State: _____	Be Sure to Complete Both Sections  Don't Forget to Sign Below	Company Responsible for Spill: (N/A if private citizen.) Name: _____ Address: _____ City/State: _____ Zip: _____ Phone: _____ Fed. Employer ID No. _____
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Cause of Spill: <input type="checkbox"/> Motor Vehicle Accident <input type="checkbox"/> Personnel Error/Vandalism <input type="checkbox"/> Tank/Container/Pipe Leak <input type="checkbox"/> Mechanical Failure <input type="checkbox"/> Transfer Accident <input type="checkbox"/> _____	Identify All Groups that Participated in Spill Mitigation : <input type="checkbox"/> Responsible Party <input type="checkbox"/> MDE ERD # _____ # _____ <input type="checkbox"/> Federal : _____ <input type="checkbox"/> State : _____ <input type="checkbox"/> Local : _____ <input type="checkbox"/> Contractor: _____	Materials used by You to contain/clean-up spill: Sorbent Dust: _____ Bags Sorbent Pads: _____ each or bales Sorbent Booms: _____ each or bales Sorbent Sweeps: _____ each or bales Overpack Drums : _____ ea. Steel or Poly Other: _____
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Responsible Party : Describe circumstances contributing to the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

Responsible Party : Describe Containment, Removal and Clean-up operations, including disposal. (Additional space on back) [Optional for FD or Gov't Personnel]

Responsible Party : Procedures, Methods and Precautions instituted to prevent recurrence of the spill. (Additional space on back) [Optional for FD or Gov't Personnel]

THE UNDERSIGNED CERTIFIES THAT THE INFORMATION PROVIDED IS TRUE AND CORRECT TO THE BEST OF HIS OR HER KNOWLEDGE AT THE TIME THE REPORT WAS COMPLETED.
Print Name: _____ **Company or Fire Department:** _____
Address : _____ **City / State / Zip** _____
Telephone _____ **Signature** _____

