



Division 09

Special Operations

Chapter 01 – Technical Rescue Services

February 2009

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 an excavation made in the earth that is deeper than it is wide.

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.
- Place ground ladders in the trench for possible self rescue of victims or Fire / EMS personnel that may accidentally fall into the trench.

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 unless a Type V PFD with a quick release attachment point is used and personnel are trained to use it.
- 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