

**PHOENIX REGIONAL
STANDARD OPERATING PROCEDURES**

MOUNTAIN RESCUE OPERATIONS

M.P. 204.10

07/11-R

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SCOPE

This procedure establishes a standard structure and guideline for all fire department personnel operating at incidents involving mountain rescue operations. The procedure outlines responsibilities for first-responders, TRT units, Command Officers, and other fire department personnel responding to such incidents. All other Phoenix Fire Department procedures shall apply to mountain rescue operations where applicable.

PURPOSE

The purpose of this procedure is to establish guidelines for the response of fire department personnel and equipment to mountain rescue incidents which utilize ropes and/or rope systems, or a rescue helicopter, to affect a rescue. Because mountain rescue operations present a significant danger to fire department personnel, the safe and effective management of these operations require special considerations. This procedure identifies some of the critical issues which must be included in managing these incidents.

TACTICAL CONSIDERATIONS

Rope rescue is defined as any rescue attempt that requires rope and/or rope systems and related equipment to safely gain access to, and remove patients from hazardous geographic areas/locations with limited access. The two categories of rescue are:

- Non-Technical - rescues with angles of inclination less than 40°. Most first-responders have the equipment and training to affect this type of rescue.
- Technical - rescues with angles of inclination from 40° to 90°. These rescues typically involve ropes and /or rope systems and shall be performed by rescuers trained to the level of Technical Rescue Technician (TRT).

All rope rescue techniques and equipment utilized in rescue operations shall meet the intent of the following standards as established by the National Fire Protection Association:

- NFPA 1670 *Standard on Operations and Training for Technical Search & Rescue Incidents*
- NFPA 1006 *Standard for Technical Rescuer Professional Qualifications.*
- NFPA 1983 *Standard on Life Safety Rope & Equipment for Emergency Services.*

Due to the inherent dangers associated with these operations, the Phoenix Fire Department *Risk Management Profile* shall be applied to all mountain rescue operations and shall be continuously re-assessed throughout the incident. A phased approach to mountain rescue operations which include; Arrival, Pre-rescue operations, Rescue operations, and Termination, can be utilized to safely and effectively mitigate these high-risk / low-frequency events.

Additional technical information is available in the issued *Technical Rescue Field Operations Guide*.

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Phase I Arrival.

I. ESTABLISH COMMAND

- A. First arriving company officer shall assume *Command* and begin an immediate size-up of the situation while ascending the mountain with medical equipment to provide treatment for any victim(s) in need of medical care.
- B. First arriving TRT unit that is staffed with a TRT Company Officer should be assigned *Rescue Sector*. The TRT Company Officer assigned as Rescue Sector should remain with his crew and ascend the mountain with the necessary equipment to conduct the rescue. Rescue Sector responsibilities include:
 - Assuming technical rescue operations control.
 - Identifying hazards and critical factors.
 - Developing a rescue plan and back-up plan.
 - Communicating with and directing TRT resources assigned to Rescue Sector.
 - Informing Command of conditions, actions, and needs during all phases of the rescue operation.
- C. Designate a Safety Officer per NFPA 1670. Considerations for Safety Officer include:
 - One of the Regional Special Operations qualified Safety Officers.
 - A Special Operations qualified Battalion Chief and/or FIT
 - Any experienced TRT Company Officer assigned to the incident.
- D. Following the transfer of Command to a Command Officer, a *Technical Advisor* should be assigned to join the Command Team at their location to assist in managing personnel and resources engaged in the technical aspects of the incident. The Technical Advisor is responsible for ensuring that the rescue plan developed by Rescue Sector and communicated to Command is a sound plan in terms of the safety and welfare of both victim(s) and rescuers. Considerations for the Technical Advisor include:
 - A Special Operations qualified Battalion Chief and/or FIT.
 - One of the Regional Special Operations qualified Safety Officers.
 - Any experienced TRT Company Officer assigned to the incident.

The Technical Advisor position within the Command Team should be filled prior to the implementation of any rescue plan proposed by Rescue Sector.

II. Size-Up

- A. Secure a witness or park ranger to assist in gathering information to determine the location and condition of victim(s). If no witnesses are present, and no other source of information is available, Command should consider calling for a police helicopter (Firebird) to locate the victim(s) on the mountain.
- B. Assess the immediate and potential hazards to the rescuers.
- C. Assess on-scene capabilities and determine the need for additional resources.

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Phase II Pre-rescue Operations

It must be determined if this will be a RESCUE operation or a RECOVERY operation based on the survivability profile of the victim(s) which include factors such as the location and condition of the victim(s), and elapsed time since the accident occurred.

I. MAKE THE RESCUE AREA SAFE

- A. Secure the area and remove all non-essential civilian personnel. If it is not possible to secure all of the hazards, rescue personnel operating in the area must be made aware of the hazard(s).
- B. Control foot traffic on the trail.
- C. Assemble all necessary personnel, rescue equipment, and patient packaging equipment that will be required for the rescue operation.

Phase III Rescue Operations

Technical rescue operations shall be conducted under the direction of Rescue Sector by trained Technical Rescue Technicians.

I. ROPE RESCUE OPERATIONS

Rescue Sector responsibilities shall include the following:

- A. Ensure that all personnel operating in Rescue Sector are accounted for and wearing appropriate PPE.
- B. Develop a rescue plan and a back-up plan.
 - Consider the risk management profile and survivability profile to develop an appropriate rescue plan.
 - The rescue plan shall be developed considering the least amount of risk to rescuers that is necessary to affect the rescue. Low-risk operations are not always possible, but should be considered first.
 - High-risk operations shall be decided upon through consultation with Rescue Sector, Safety, Command, and the Technical Advisor.
 - A back-up plan shall be in place prior to initiating rescue operations.
- C. Ensure the rescue plan and back-up plan, which include emergency procedures, are communicated to all personnel operating on the incident.

II. HELICOPTER OPERATIONS

Helicopter operations are considered high-risk and shall be decided upon through consultation with Rescue Sector, Safety, Command, and the Technical Advisor. Factors to consider in the use of a rescue helicopter include:

- Condition of the patient.
- Difficult access.
- Difficult terrain.
- Time of day.
- Environmental effects on rescuers.

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NOTE: Prior to considering the use of a helicopter for rescue operations, Command must determine if a rescue-qualified pilot is available for the rescue operation. If so, the Pilot In Command (PIC) will have the final say on *if* and *how* the helicopter will be used in the rescue operation.

In addition to the responsibilities described for rope rescue, Rescue Sector shall also be responsible for the following:

- A. Establish a Base LZ in an appropriate location.
 - Assign this function to a TRT response unit.
- B. Establish a Mountain LZ in designated mountain locations.
 - Assign this function to TRT personnel on the mountain. Call for additional resources if necessary.

III. TREATMENT

- A. Conduct a primary survey upon reaching the victim.
- B. Initiate C-spine precautions as soon as possible.
- C. Conduct a secondary survey and correct any life threatening conditions.
- D. Consider removing the victim from danger prior to providing definitive care.
- E. Provide ALS level treatment and transportation to a hospital when indicated.

Phase IV Termination

- A. Ensure personnel accountability.
- B. Descend the mountain with personnel and equipment. In cases of a fatality, consider leaving everything in place until the investigative process has been completed.
- C. Consider a Post Incident Critique (may be more appropriate at a later date).
- D. Return to service after returning all equipment to apparatus.

ADDITIONAL CONSIDERATIONS

I. COMMAND STRUCTURE

- A. The first arriving unit shall assume *Command* of the incident. This unit shall remain in Command until Command is transferred to improve the quality of the Command organization. A Command Team shall be assembled to include, at a minimum, a Chief Officer and a Technical Advisor.
- B. Considerations for the *Technical Advisor* include:
 - A Special Operations Qualified Battalion Chief and/or FIT.
 - One of the Regional Special Operations qualified Safety Officers.
 - Any experienced TRT Company Officer assigned to the incident.

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- C. The first arriving TRT unit that is staffed with a TRT Company Officer should be assigned *Rescue Sector*. Rescue teams, Base LZ, Mountain LZ, and any other such functional team operating on the mountain shall be under the direction of Rescue Sector. Rescue Sector will communicate directly with TRT units assigned to these functions within Rescue Sector and shall keep Command informed during all phases of the rescue operation.
- D. Considerations for *Safety Officer* include:
- One of the Regional Special Operations qualified Safety Officers.
 - A Special Operations Qualified Battalion Chief and/or FIT.
 - Any experienced TRT Company Officer assigned to the incident.
- E. *Treatment Sector* can be assigned to the first non-TRT unit that ascends the mountain.
- II. OTHER CONSIDERATIONS
- A. Consider the effects of inclement weather on the hazard profile, the victim(s), and the rescuers.
- B. Rescuers shall be “on-rope” and “tied-in” when operating near an edge.
- C. Victims should be secured in a harness or litter so as not to fall out if inverted at any time during the rescue operation.
- D. Mountain rescue incidents attract the news media; consider assigning a P.I.O.