



<b>Wintergreen Fire and Rescue Standard Administrative Policy</b>	
Subject:	Technical Rescue
Reference Number:	OPER 03-021
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Signature of Approval	Curtis Sheets, Chief

**Background:**

The Wintergreen Fire - Rescue Department has the responsibility of providing for the rescue needs of the Wintergreen community and, through mutual aid agreements, assistance with the rescue needs for surrounding areas.

**Purpose:**

To establish guidelines for the response of Wintergreen Fire - Rescue Department personnel and equipment to incidents which utilize ropes and/or rope systems to aid in rescue.

**Definitions:**

**Cold Zone:** The area furthest from the center of the incident. PPE is the most relaxed here as rescuer risk is minimal.

**High Angle Rescue:** Incidents above or below grade where the use of rope and rigging hardware and software are necessary to rescue or recover a victim.

**Hot Zone:** The area immediately surrounding the operational center of an incident. The area poses the highest risk to victims and rescuers and requires the highest levels of safety, accountability, PPE and control of incidents.

**Low Angle Rescue:** A rescue that occurs on a slope of 30 degrees or less.

**Slack:** Release tension on rope while maintaining positive control of the rope.

**Stop:** All Systems and movement shall be stopped until concern is addressed.

**Tension:** Remove slack in the system until the rope is under manageable tension.

**Warm Zone:** The area between the cold and hot zone where hazards are present but minimal. PPE includes head, eye, ear and foot protection.

**Requirements:**

1. Certifications
  - a. VAVRS Basic & Light Duty Rescue

- b. VAVRS Vertical Rescue
  - c. VAVRS Advanced Vertical Rescue
  - d. DFP Intro to Tech Rescue - Module II
  - e. DFP Rope Rescue Technician (Level II)
  - f. VAVRS or DFP Vehicle Extrication
2. Training Categories
- a. Operations Level
    - i. Requirements - VAVRS Basic & Light or DFP Intro to Tech Rescue - Module II
    - ii. Assignments on Scene - basic setup of haul/lower systems, prepare equipment (as necessary), safety officer, coordinate haul team personnel.
    - iii. Complete annual proficiency check sheet for this level.
  - b. Technician Level
    - i. Requirements - VAVRS Vertical Rescue or DFP Rope Rescue Technician (Level III)
    - ii. Assignments on Scene - Assignments for Operations Level in addition to tasks related to Vertical Rescue scenarios.
    - iii. Complete annual proficiency check sheet for this level.

**Standards:**

- 1. Rope Standards
  - a. All rope techniques and equipment utilized in rescue operations shall be in accordance with established standards by the National Fire Protection Association. Techniques and equipment used shall be limited to the curriculums taught in DFP and VAVRS rope rescue courses.
    - i. NFPA 1670 Standard on Operations and Training for Technical Search and Rescue Incidents
    - ii. NFPA 1006 Standard for Technical Rescuer Professional Qualifications
    - iii. NFPA 1983 Standard for Life Safety Rope and Equipment for Emergency Services
- 2. Levels of Training:
  - a. Awareness:
    - i. Recognize the need for rope rescue
    - ii. Can identify and request resources as needed
    - iii. Site control and initial scene management
    - iv. Identify and mitigate hazards associated with the scene
    - v. Use techniques such as coaching to conduct a non-entry rescue
  - b. Operations:
    - i. Construct anchor, lowering and haul systems
    - ii. Package and attend to patients in stokes/litter systems
    - iii. Lower equipment while tied off to safety to technician level operators
  - c. Technicians:
    - i. Basic rope system physics

- ii. Construct advanced anchor systems
- iii. Ascend and descend rope
- iv. Pass knot through rope systems
- v. Construct high-line systems
- vi. Ability to safely manage a rescue scene

**Procedure:**

1. Tactical Considerations:
  - a. A risk/benefit analysis shall be performed by the Incident Commander.
  - b. High Angle Rescue:
    - i. Any high angle rescue should require a Rope Technician as the Operations Safety Officer
    - ii. Any high angle rescue should require a Rope Technician as the Master Rigger.
  
2. Phases of Operation
  - a. Phase I - Arrival
    - i. Assessment: Obtain accurate information and determine whether on shift personnel can mitigate the incident and/or the Incident Commander should have the OIC initiate a career call-back for additional staffing. Determine the following immediately:
      1. Number of victims and their locations
      2. Time elapsed
      3. High versus Low Angle
      4. Identified hazards to rescuers
  - b. Phase II - Pre-Rescue Operations
    - i. Scene Control
      1. Determine and Communicate accessibility
      2. Establish minimum of 150 ft. isolation zone
      3. Secure Area
      4. Remove all non essential and untrained personnel from hot zone
    - ii. Establish Hot Zone
      1. All personnel in the hot zone shall wear a minimum of the following:
        - a. Helmet
        - b. Hard sole shoes
        - c. Safety Glasses
        - d. Rope gloves
        - e. Any personnel operating within 10 feet of an edge shall have on a Class II or III (preferred) harness that is tethered
  - c. Phase III - Operations
    - i. Operation phase may include:
      1. Accessing patient
      2. Performing rapid medical assessment

3. Packaging patient
    4. Extrication of patient
  - ii. Low Angle - Terrain 30 degrees or less the patient may be able to walk out with assistance. If a patient is injured and/or unable to assist in their own rescue, properly packaged in a stokes basket. The stokes basket extrication shall be conducted with a minimum of four personnel. These personnel shall face the direction of travel during the extrication.
    1. If there are fall concerns, establish a belay line and connect it to the stokes for stability
  - iii. High Angle - Terrain greater than 30 degrees, but less than 45 degrees, the patient will be assisted at all times.
    1. If a patient is ambulatory, they may be assisted by rescuers with the use of belay lines.
    2. If the victim is not ambulatory, the patient shall be packaged properly and placed into a stokes basket and connected to a skate block or haul line.
    3. Attendants shall be attached to the stokes basket.
  - iv. High Angle - Terrain 45 degrees or greater, a technician shall assume Operations and conduct all extrications.
    1. A minimum 10:1 total system safety factor (SSF) should be maintained utilizing hardware and two rope techniques of shared tension, mirrored, or a main and belay when applicable.
    2. If at any time a 10:1 SSF is unattainable, the IC should be notified, and the system should be evaluated before use.
    3. A separate anchor shall be utilized for each line whenever possible.
- d. Phase IV - Termination of Incident
  - i. Ensure personnel accountability
  - ii. Deconstruct all systems and ensure all equipment is cleaned, and operable before returning to service