ROPE RESCUE OPERATIONS

A. GENERAL

This guideline provides operational guidance for the safe and effective use of personnel and equipment at incidents that involve rope rescue operations. This guideline is used in conjunction with WAC 296-305 and NFPA 1670, 1983 and 1006.

The Incident Commander shall assign a qualified Rescue Technician to serve as the Rescue Group Supervisor. The Rescue Group Supervisor will make position assignments in accordance with the Thurston County SORT Team Guidelines and Mobilization Plan as required by the needs of the incident. All assignments listed below need to be filled by Rescue Technicians.

**Rescue Group Supervisor:** This individual coordinates rescue operations and the associated activities within the rescue area. This individual serves as on-site competent person and reports to the Incident Commander.

**Technical Rescue Safety Officer:** This individual is responsible for monitoring safety within the hazard zone at the rope rescue site and shall report to the Rescue Group Supervisor.

**Rig Master:** This individual is responsible for planning and directing technical rigging operations and shall report to the Rescue Group Supervisor.

**Edge / Entry Team Leader:** This individual is responsible for controlling access to the hazard zone and shall Supervise Entry Team and edge personnel. This individual reports to the Rescue Group Supervisor.

Zones will be established for rope rescue operations:

- **Hot Zone** – The hot zone is defined as the area within six feet of the working area with an established perimeter between the hot and warm zone.
- **Warm Zone** – The warm zone is defined as the area outside of the Hot Zone where operational tasks are conducted.
- **Cold Zone** – The cold zone is defined as any area outside of the Hot and Warm Zone where support personnel and equipment maybe staged.
Low angle incidents are defined as “less than vertical” where a serious injury or death will not occur if the system fails. Example: Class I, II, and III terrain.

High angle incidents are defined as situations where rope or system failure would result in serious falls and injuries to rescuers. Only Technician Level Personnel shall conduct high angle and vertical rescue operations. Example: Class IV & V terrain.

Rope rescue systems shall be safety checked prior to use.

Personnel having operations level training in low angle rapelling and lowering operations may attempt to gain access to victims using a single rope system in low angle situations in order to treat and stabilize an injured victim. Example: Class III terrain.

Personnel should use appropriate verbal commands and minimize all unnecessary communications during rope rescue operations.

Helmets will be worn at all times in the working area. Gloves will be worn when handling moving rope.

All rescue rope carried on in-service apparatus shall be inspected after each use and at a minimum of every 6 months. After inspection, the rope use / inspection shall be logged in the rope history card which is kept with the rope. NFPA 1983 (current edition) shall be used as a guide as to when to replace software. Rescue ropes will be retired from service after 10 years from date of manufacture, or per the manufacturer’s recommendation, as long as it is properly marked and records kept on its use. Each rope will be labeled with a number corresponding to a rope history card. Rope ID labels will be attached to both ends of the rescue rope. Regardless of age, any rope that is damaged, shock loaded, or exposed to caustic chemicals shall be taken out of service and referred to the department’s rescue equipment manager for evaluation.

B. OPERATIONAL GUIDELINES

First Arriving Units

1. Establish Command

2. Size Up

   The first arriving units will attempt to gather the following incident information and report to the Incident Commander.

   - number and location of victim(s).
   - if the victim is suspended/hanging or supported.
   - if the patient(s) are injured.
   - if the victim can be reached by other than a rope rescue system.
   - if the victim can self-rescue.

3. Request a S.O.R.T. Rescue Response through dispatch if the information gathered indicates that a rope rescue is the appropriate rescue method. Establish a staging area for incoming resources.
4. Isolate the scene to minimize further danger to victim, bystanders, and emergency personnel. Only essential personnel should be allowed in the working area.

Site Safety

1. Provide rescue site security.

2. A travel limiting device will be used when personnel are 6’ or less from the edge. The device should be attached to a harness. The Rescue Group Supervisor (RGS) may change this distance as the situation dictates.

C. RESCUE AREA OPERATIONS

Operations Level Personnel

1. In low angle situations (class II, III, and some class IV terrain) operations level personnel may:
   - Access victim using single rope technique where appropriate.
   - Package patient in a stokes litter.
   - Serve as litter attendants to assist with patient movement.
   - Assist rescue technicians within the scope of their training.

2. In high angle rescue situations, operations level personnel may:
   - Establish two rope system anchor points for main line and belay lines.
   - Attempt to get a rope to the victim.
   - Assist rescue technicians within the scope of their training.

Technician Level Personnel

1. Personnel should report to and work through the Incident Commander. The IC will send responding Rescue Technicians to report to the RGS. All stages of the rescue operations shall be communicated to the Incident Commander for coordination and logging of time.

2. Conduct size-up, if not already completed.

3. All victims (in high angle scenarios) will be on two separate rescue rope systems whenever possible.

4. All victim transport systems (i.e. stokes basket, patient extrication devices, class II or III harnesses etc.) will be securely attached to the victims. When moved through a hazardous area where there is risk of injury by a fall, the victim will be attached to a belay or braking system.

5. Ropes should be protected against chafing and abrasion.

6. Two rope systems should be utilized except when the delay in securing and mansing a second rope will likely create a negative outcome for the victim. In this case, a rappel-
based system may be used when done in conjunction with a secondary braking system (guides rappel back-up [GRB] or self-belay technique) on the rescuers rope.

7. When a two rope system is used, 100% of the load is on the mainline, and the belay line acts as a non-tensioned safety line.

8. A Rescue Technician will supervise packaging and will be responsible for litter tending and safely transporting the victim out of the hazard zone.

9. Belaying of single person loads may be done as follows: munter hitch, tandem prusik, or a SORT approved commercial belay device. The munter hitch is the preferred method as it is uses only an XL carabiner and can quickly change direction.

10. Single person rappels may be belayed as follows: munter hitch, tandem prusiks, GRB, or self belayed with single prusik or Petzl ASAP connected to the to the upper harness D ring.

11. All belay lines will use a *direct tie-in connection and will go through the front upper chest connection on their Class III harness.

* Except when entering a Confined Space. For a CS Entry a carabiner will be used to attach the belay line to the harness or extraction device.

12. Rescue load lowering systems (2 persons) will be belayed as follows: Tandem 8mm prusiks with a pre-tensioner or SORT approved G rated device. If a pre-tensioner is not used then a Radium Hitch LRH will be rigged behind the prusiks.

13. Rappel pick-offs will be performed using a S.O.R.T. approved G rated rescue device. Rappel pick-offs will be belayed as a two-person load unless the victim has a separate belay. (If using a Petzl I'd note specific method of connection of device to rescuer harness)

14. Two person load lowering systems will be lowered using S.O.R.T. approved G rated Decent Control Device (DCD).

15. Mechanical advantage systems will use soft interface rope grabs (prusik loops) or SORT approved device. Frozen or muddy rope may require the use of mechanical rope grabs.

16. A stokes basket and one litter attendant may be lowered on a single rope if the terrain meets low angle guidelines, the basket is empty, and a DCD is used. Example: Class III terrain.

17. If rigging a litter basket in a vertical configuration the upper litter spider needs to have two individual bites going from the litter to the main litter attachment point (steel rigging ring).

18. Main and belay lines will attach to the main litter attachment point (steel ring) in the following configuration:

<table>
<thead>
<tr>
<th>Attended Litter</th>
<th>Unattended Litter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main: Long tail bowline</td>
<td>Main: Direct tie in with backed up bowline</td>
</tr>
<tr>
<td>Belay: Long tail bowline</td>
<td>Belay: Direct tie in with figure 8 follow through</td>
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</table>
ROPE RESCUE GROUP SUPERVISOR OPERATIONAL CHECKLIST

DATE_________________ TIME_________________

_____ Assign Rescue Group incident management positions (RGL, TR Safety, Entry TL, Main, Belay, Rigging, Edge, Entry 1, Entry 2) as needed.

_____ Perform a risk assessment

_____ Determine whether operation will be a rescue or recovery

_____ Confirm a S.O.R.T. response with minimum of 6 Techs

_____ Establish operational control zones (Hot, Warm, and Cold)

_____ TR Safety Assigned

_____ Determine terrain type (ie, Class 1-5)

_____ Safety check all systems prior to use

_____ Gain access to patient

_____ Establish communications

_____ Implement the tactical action plan

_____ Provide updates to the Incident Commander

_____ Re-evaluate the tactical plan to verify the plan is effective

_____ Rehab personnel as needed

_____ Provide EMS as needed