



Australian Government

SISORSC003 Perform complex vertical rescues

Release: 1

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Modification History

Not applicable.

Application

This unit describes the performance outcomes, skills and knowledge required to establish ropes and belays for rescue rope systems, and to use rope rescue techniques and mechanical advantage systems to rescue self and others during single and multi pitch activities. Complex situations may involve bad or extreme weather, unconscious persons, numerous environmental hazards or a combination of many factors.

Complex rope rescue skills are required in a range of activity contexts which can include abseiling, climbing, canyoning and caving.

It applies to senior leaders, guides or instructors, and others who use discretion and judgement to manage significant problems and emergencies when they arise.

This unit applies to any type of organisation that delivers outdoor recreation activities including commercial, not-for-profit and government organisations.

No occupational licensing, certification or specific legislative requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Rescue Operations

Unit Sector

Outdoor Recreation

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes

1. Determine rescue requirements and prepare for rescue.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1. Assess situation, identify hazards promptly, assess risks and manage to avoid injury to self and others.
- 1.2. Determine appropriate rescue methods and techniques for situation, according to degree of urgency and

- condition of persons in need of rescue.
 - 1.3. Select rescue equipment according to requirements.
 - 1.4. Determine roles and responsibilities of others, complete a briefing and provide clear and concise instructions throughout rescue.
 - 1.5. Implement rescue operations according to organisational policies and procedures for emergency response.
- 2. Establish systems for complex rescues.
 - 2.1. Determine need for use of mechanical advantage systems, identify and establish type appropriate for rescue situation.
 - 2.2. Select and rig or establish multiple anchors, ensuring equalisation and minimise potential for shock loading.
 - 2.3. Promptly establish rescue systems required to raise and lower persons for complex situations.
 - 2.4. Rig rescue ropes to minimise effects of rope stretch and rub points and for efficient ascent and descent during rescue.
 - 2.5. Establish belays suitable for rescue circumstance and to ensure personal safety during rescues.
 - 2.6. Verify manufacturers' recommendations, equipment limitations and safety margins, and rig equipment accordingly.
- 3. Conduct complex rescue of others.
 - 3.1. Identify situations requiring approach from above or below and implement suitable approach procedures.
 - 3.2. Establish communication with rescuee and provide clear and concise instructions and information throughout the rescue.
 - 3.3. Operate rescue system to raise and lower persons on single and multi pitches.
 - 3.4. Safely and efficiently escape a loaded belay system and transfer from belay device to direct connection to anchor.
 - 3.5. Maintain safety of self, others and rescuee throughout rescue operations.
- 4. Complete complex self rescues.
 - 4.1. Determine need for self rescue, assess complexities of situation and identify suitable techniques to resolve.
 - 4.2. Anticipate hazards and utilise techniques to approach, avoid or negotiate throughout complex self rescues.
 - 4.3. Implement extrication techniques to release from compromised situation.
 - 4.4. Maintain personal safety throughout rescue operations.
- 5. Debrief and complete reports.
 - 5.1. Participate in incident management debrief and identify future response improvements.
 - 5.2. Complete required incident reports according to

organisational procedures.

Foundation Skills

Foundation skills essential to performance in this unit, but not explicit in the performance criteria are listed here, along with a brief context statement.

SKILLS	DESCRIPTION
Reading skills to:	interpret detailed familiar organisational policies and procedures for emergency response.
Writing skills to:	record detailed and accurate factual information about rescue responses.
Numeracy skills to:	- complete significant calculations and estimations of loads for anchors, ropes and pulleys - visually estimate distances to calculate lengths for ropes.
Teamwork skills to:	pro-actively and cooperatively work within teams of operational personnel to coordinate rescue logistics, solve arising problems and effect efficient rescues.
Self-management skills to:	critically analyse all circumstances and implications to coordinate a considered response to rescue requirements.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume Implementation Guides -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1ca50016-24d2-4161-a044-d3faa200268b>

Assessment Requirements for SISORSC003 Perform complex vertical rescues

Modification History

Not applicable.

Performance Evidence

Evidence of the ability to complete tasks outlined in elements and performance criteria of this unit in the context of the job role, and:

- establish systems for and complete the following simulated vertical rescues:
 - one rescue of a conscious person
 - two rescues of unconscious persons
 - two self rescues
- across the five rescues, collectively utilise the following equipment, techniques and methods:
 - select and tie at least four different types of knots suitable for the system type established, and appropriate for the intended load and function
 - mechanical advantage systems which include compound pulley systems with more than one moving pulley
 - rescue from above
 - rescue from below
 - raising rescuee
 - lowering rescuee
 - rescue with assisted haul from other team member(s)
 - single rope techniques including:
 - changeovers from descending to ascending
 - changeovers from ascending to descending
 - changeover to another system while suspended on a rope
 - bypassing knots
 - tandem descent
 - pluck off
 - rescue from a traverse
 - transfer load from one rope to another
- for each rescue operation
 - designate roles and responsibilities to team members and participants to effectively complete rescues
 - maintain effective communication with the rescuee
 - participate in a debrief and complete an incident report.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- organisational policies and procedures for emergency response
- roles and responsibilities that can be allocated to team members and participants to effectively complete a complex rope rescue
- key considerations for determining rescue methods and techniques for complex rescues:
 - site topography and access to person to be rescued
 - severity of site hazards
 - degree of urgency to avoid situation worsening
 - weather conditions
 - condition of person to be rescued
 - rescue abilities of self and team members
 - availability of equipment and human resources
- features, functions, advantages and disadvantages of different types of anchors:
 - fixed artificial
 - naturally occurring
 - artificial removable
- features, functions and operation of equipment used for complex rescues:
 - belay systems:
 - top rope top belay
 - top rope bottom belay
 - bottom brake belay
 - self-belay
 - static and live belays
 - descending devices:
 - assisted locking
 - inline
 - plate
 - figure 8
 - tubular
 - improvised
 - belay devices:
 - assisted locking
 - inline
 - plate
 - figure 8
 - tubular
 - improvised

- harnesses of different types
- carabiners
- maillon rapides
- static and dynamic rope and when each might be used
- tape
- sewn sling
- personal attachment systems, including cow's tails
- Prusik cords
- foot loops
- mechanical ascenders
- releasable hitches
- mechanical advantage systems to include:
 - simple pulley systems with one moving pulley
 - compound pulley systems with more than one moving pulley
- factors that affect the selection and rigging of above equipment for complex rescues
- manufacturers' specifications for equipment use
- techniques used to:
 - establish belay systems for complex rope rescues
 - close the system; advantages and disadvantages of doing so
- when different knots are used in rigging, advantages and disadvantages, and how to tie them:
 - fixed eye
 - mid line tied in the bight
 - end to end joining
 - termination
 - load control hitches
 - slide and grip hitches
- complex rope rescue techniques used to:
 - raise and lower conscious and unconscious persons on single and multi pitches
 - rescue with assisted haul from other team member(s)
 - use a single rope and execute:
 - changeovers from descending to ascending
 - changeovers from ascending to descending
 - changeover to another system while suspended on a rope
 - bypass knots
 - complete two person (tandem) descents
 - pluck off
 - rescue from a traverse
 - transfer loads from one rope to another
 - traverse diagonally or horizontally

- secure rescuee and escape from a loaded belay system
- typical hazards associated with complex rope rescues, and techniques used to safely negotiate.

Assessment Conditions

Skills must be demonstrated in an above or below ground environment which might include cliff faces, canyons or caves.

The following resources must be available to replicate industry conditions of operation:

- first aid equipment
- communication equipment for emergency response.

Assessments can only be completed through simulated activities. Simulations must incorporate time critical requirements.

Assessment must ensure use of:

- people who act as team members, participants and rescuees with whom the individual interacts during simulated rescues
- personal protective equipment to include:
 - gloves, as required
 - abseiling or climbing helmets
 - harnesses
- anchors which can include:
 - fixed artificial
 - naturally occurring
 - artificial removable
- equipment used for complex rescues:
 - carabiners
 - maillon rapides
 - rope which can include static and or dynamic rope
 - tape or sewn sling
 - personal attachment systems, including cow's tails
 - Prusik cords
 - foot loops
 - mechanical ascenders
 - descending devices
 - belay devices
 - mechanical advantage systems
- template incident reports
- organisational policies and procedures for emergency response.

Assessors must satisfy the Standards for Registered Training Organisations requirements for assessors, and:

- have a collective period of at least three years' experience as a recreational activity leader, guide or instructor; or as a rescue operator where they have applied the skills and knowledge covered in this unit of competency; the three years' experience can incorporate full and or part time experience.

Links

Companion Volume Implementation Guides -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1ca50016-24d2-4161-a044-d3faa200268b>