

ROPE ACCESS EVALUATION GUIDELINES



Society of Professional Rope Access Technicians

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Notes for Usage:

Terminology from SPRAT’s *Defined Terms* used in this document is shown in ***bold, italic*** type unless written in a primary section heading.

Use of the word ‘shall’ denotes a mandatory requirement.

Use of the word ‘should’ denotes a recommendation. The word ‘should’ does not connote indifference or ambivalence regarding a statement.

Approximate conversions of units are presented in parentheses. These approximations are provided as a reference and are not the standard. When a value is presented as a limit, approximations are greater than an expressed minimum or less than an expressed maximum.

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1. Purpose and Scope

1.1. Purpose

- 1.1.1. This document serves as a supplement to SPRAT's *Rope Access Certification Requirements* and is to be used in conjunction with SPRAT's *Safe Practices for Rope Access Work* and SPRAT's *Defined Terms*.
- 1.1.2. The purpose of this document is to provide current and prospective **rope access technicians, competent trainers**, Evaluation Session Hosts, and evaluators with the information and resources requisite in conducting impartial, consistent, and efficient rope access evaluations.

1.2. Scope

1.2.1. The document provides:

- 1.2.1.1. The **responsibilities** of all involved parties.
- 1.2.1.2. Candidate pre-qualifications and expectations for **documenting experience**.
- 1.2.1.3. Information for administering the **written test**.
- 1.2.1.4. Rope access evaluation **policies**
- 1.2.1.5. **Criteria** for evaluation of and considerations for training to the requirements set forth in *Rope Access Certification Requirements*.
- 1.2.1.6. Details for **Direct Entry** applicants.
- 1.2.1.7. **Site and equipment requirements** for conducting a rope access evaluation.
- 1.2.1.8. **Equipment** information.

2. Responsibilities of Involved Parties

2.1. Candidate Responsibilities

2.1.1. Prior to participating in rope access evaluation, a candidate shall:

- 2.1.1.1. Provide proof of identification and age.
- 2.1.1.2. Receive training in accordance with Rope Access Certification Requirements.
- 2.1.1.3. Ensure their personal data is accurate in SPRAT's system.
- 2.1.1.4. Select their certification testing level.
 - 2.1.1.4.1. A candidate's testing level may not be changed after the rope access evaluation begins.
- 2.1.1.5. Provide documentation verifying eligibility for their testing level in accordance with Section 4.2.
 - 2.1.1.5.1. Candidates unable to demonstrate satisfying eligibility requirements may not upgrade.
- 2.1.1.6. Complete the Candidate Affidavit.

2.1.2. During a rope access evaluation, a candidate shall:

- 2.1.2.1. Conduct themselves in a professional manner.
- 2.1.2.2. Complete certification requirements for their desired level of testing in a safe, efficient, manner.
- 2.1.2.3. Ask questions, as needed, to clarify an evaluator's instructions.

2.1.3. Following a rope access evaluation:

- 2.1.3.1. Candidates should provide feedback regarding the rope access evaluation to the SPRAT Office.
- 2.1.3.2. Candidates that do not pass the written test or rope access evaluation should retest in accordance with Section 3.3 and Section 4, respectively.
- 2.1.3.3. Candidates should ensure their personal information remains current within SPRAT's system.
- 2.1.3.4. Successful candidates should maintain their certification.

2.2. Evaluation Session Host Responsibilities

2.2.1. Prior to hosting a rope access evaluation, an Evaluation Session Host shall:

- 2.2.1.1. Maintain a Company or Company Premier membership with SPRAT.
- 2.2.1.2. Ensure a Host Agreement for the current calendar year has been submitted to and approved in SPRAT's system.
- 2.2.1.3. Ensure insurance documentation has been submitted to and approved in SPRAT's system in accordance with SPRAT's *Evaluation Session Insurance Policy*.
- 2.2.1.4. Provide or ensure provision of a site meeting the requirements of Sections 10, [Error! Reference source not found.](#), and [Error! Reference source not found.](#).
- 2.2.1.5. Establish a rope access evaluation and assign an evaluator in SPRAT's system.
- 2.2.1.6. Schedule an evaluator to conduct the rope access evaluation.
- 2.2.1.7. Ensuring a maximum of eight candidates per rope access evaluation.
 - 2.2.1.7.1. While an evaluator may only conduct one rope access evaluation per day, multiple evaluators may conduct rope access evaluations at a site simultaneously.
- 2.2.1.8. Assist candidates with entering or updating personal information in SPRAT's system.
- 2.2.1.9. Ensure candidates meet all eligibility and training requirements of Section 3 of *Rope Access Certification Requirements*.
- 2.2.1.10. Submit or ensure the submittal of, and verify the approval of Direct Entry applications

2.2.2. During a rope access evaluation, an Evaluation Session Host shall:

- 2.2.2.1. Provide or ensure provision for prompt rescue.

2.2.3. Following a rope access evaluation, Evaluation Session Hosts shall:

- 2.2.3.1. Provide feedback regarding the rope access evaluation to the SPRAT Office.
- 2.2.3.2. Assist with the submittal and investigation of complaints and appeals from a rope access evaluation as appropriate.
- 2.2.3.3. Provide payment of rope access evaluation fees in a timely manner.
 - 2.2.3.3.1. A fee of \$100 is assessed for each candidate.

2.3. Evaluator Responsibilities

2.3.1. Prior to administering a rope access evaluation, an evaluator shall:

- 2.3.1.1. Maintain an evaluator appointment in accordance with approved procedures.
- 2.3.1.2. Ensure their independence from all candidates.
- 2.3.1.3. Inform the SPRAT Office and Evaluations Committee of any potential conflicts of interest.
- 2.3.1.4. Ensure Evaluation Session Hosts and candidates meet applicable eligibility requirements.
- 2.3.1.5. Verify site requirements.

2.3.2. During the rope access evaluation, an evaluator shall:

- 2.3.2.1. Administer the rope access evaluation in accordance with approved procedures.
- 2.3.2.2. Observe candidates' adherence to certification criteria.
- 2.3.2.3. Issue and explain a rope access evaluation results to candidates and Evaluation Session Hosts.

2.3.3. Following a rope access evaluation, an evaluator shall:

- 2.3.3.1. Submit rope access evaluation documentation to the SPRAT Office.
- 2.3.3.2. Assist with the investigation of complaints and appeals from a rope access evaluation.

2.4. SPRAT Office Responsibilities

2.4.1. The SPRAT Office shall:

- 2.4.1.1. Assist with general certification program enquiries.
- 2.4.1.2. Review, approve, and manage Evaluation Session Host information.
- 2.4.1.3. Manage administration of the Direct Entry program.
- 2.4.1.4. Compile and store rope access evaluation and written test information.
- 2.4.1.5. Collect and manage fees associated with certification processing.
- 2.4.1.6. Process certification documentation for all successful candidates.
- 2.4.1.7. Manage verification of current and expired SPRAT certifications.

3. Written Test Information

3.1. General

3.1.1. The written test evaluates candidates' understanding of the following SPRAT standards and supplements:

- 3.1.1.1. Safe Practices for Rope Access *Work*
- 3.1.1.2. *Rope Access Certification Requirements*
- 3.1.1.3. *Defined Terms*
- 3.1.1.4. *Rope Access Evaluation Guidelines*

3.1.2. The test is comprised of 50 multiple choice and true-false questions.

3.1.3. There is only one correct answer for each question.

3.1.4. A score of 80% or better constitutes a passing score for the written test.

3.2. First Written Test Attempt

3.2.1. A candidate shall complete the written test prior to participating in the rope access evaluation.

3.2.1.1. An upper-level written test may be used in conjunction with a lower-level rope access evaluation.

3.2.2. The written test shall be completed no more than 10 days prior to the date of the rope access evaluation.

3.2.2.1. A successful written test may be used for multiple rope access evaluations within this time frame.

3.2.3. A candidate is permitted one opportunity to take the written test prior to the rope access evaluation.

3.2.4. A candidate that fails their first written test attempt may participate in a rope access evaluation.

3.3. Second Written Test Attempt

3.3.1. A candidate that fails their first written test attempt but passes their rope access evaluation may attempt the written test a second time.

3.3.1.1. The second written test attempt may be taken immediately following the rope access evaluation.

3.3.1.2. The second written test shall be successfully completed within 60 days of the rope access evaluation to obtain a certification without reattending a rope access evaluation.

3.3.2. If a candidate successfully completes the second written test attempt, the rope access evaluation date is used for the purposes of determining the expiration of the certification.

3.3.3. A candidate that fails to successfully complete the second written test attempt must retake, in their entirety, both the written test and the rope access evaluation, to obtain a certification.

3.4. Written Test Administration

3.4.1. Candidates may only consult SPRAT standards and supplements during the written test.

3.4.2. Candidates have one hour to complete the written test.

3.4.3. Written tests should be taken online.

3.4.3.1. Written tests may be paper-based.

3.4.4. Written tests shall be administered by an evaluator or a designated *proctor*.

3.4.4.1. A *proctor* may be designated by an evaluator or the SPRAT Office.

3.4.5. The evaluator or *proctor* shall:

3.4.5.1. Verify candidate identity and personal information.

3.4.5.2. Ensure consultation of only SPRAT standards and supplements.

3.4.5.3. Ensure no discussion among candidates.

3.4.5.4. Ensure no test materials are copied.

3.4.6. A candidate may have the test read to them.

3.4.7. If a candidate does not understand a question, clarification may be provided.

3.5. Online Written Tests

3.5.1. The SPRAT Office will provide online written test access information to evaluators, Evaluation Session Hosts, and *proctors*.

3.5.2. Results of online written tests are sent to the candidate or the *proctor* or evaluator that administers the written test.

3.5.2.1. Test results shall be retained to present to the evaluator.

3.6. Paper-based Written Tests

3.6.1. Written tests and answer keys shall remain secured and unavailable to a candidate prior to taking a paper-based written test.

3.6.2. Candidates should ensure that they are marking their desired answer in a clear manner.

3.6.3. Unanswered questions are considered as incorrect.

3.6.4. Written tests taken on paper should be graded immediately.

3.6.4.1. The correct answer for each incorrect question should be marked.

3.6.4.2. The test grade percentage should be written on top of the answer sheet.

3.6.5. Candidates shall have the opportunity to review their written test.

3.6.5.1. Candidates should place their initials adjacent to questions answered incorrectly.

3.6.6. The *proctor* shall complete and sign SPRAT's *Proctor Affidavit*.

3.6.7. The *proctor* shall return all testing materials to the evaluator.

3.6.7.1. If the *proctor* cannot return the written test materials to the Evaluator, the *proctor* shall destroy the materials after the evaluator or SPRAT Office has confirmed receipt of the results.

4. Rope Access Evaluation Policies

4.1. General

- 4.1.1. A candidate may participate in one rope access evaluation per calendar day.
- 4.1.2. A candidate's testing level may not be changed after the rope access evaluation begins.
- 4.1.3. A rope access evaluation shall consist of no more than eight candidates.
- 4.1.4. An evaluator may administer one rope access evaluation per calendar day.

4.2. Candidate Eligibility

- 4.2.1. Candidate eligibility shall be verified prior to a candidate's participation in a rope access evaluation.
- 4.2.2. Training and experience shall be verified in accordance with *Rope Access Certification Requirements*.
 - 4.2.2.1. Hours recorded during a candidate's previous rope access evaluation may be used to verify experience requirements and are available from the SPRAT Office upon request.
 - 4.2.2.2. Re-certification candidates should present up-to-date experience documentation.
- 4.2.3. Direct Entry approval shall be verified in accordance with Section 9.
- 4.2.4. Written test results shall be verified in accordance with Section 3.2.

4.3. Constraints

- 4.3.1. Candidates may consult unmarked SPRAT documentation during the rope access evaluation.
- 4.3.2. Candidates shall have one attempt to complete each exercise.
- 4.3.3. Requirements shall be evaluated once, unless they are needed for completing subsequent requirements.
- 4.3.4. Requirements may be combined.
- 4.3.5. Candidates participating in group exercises shall be evaluated at their testing level.
- 4.3.6. Candidates that have failed shall not provide further assistance in a rope access evaluation that day.
- 4.3.7. Time limits may be invoked during completion of a requirement if either of the following conditions are met:
 - 4.3.7.1. Lack of forward progress.
 - 4.3.7.2. Inefficient technique or process.
- 4.3.8. A candidate may be evaluated until they and the evaluator have signed off on an overall result.

4.4. Results

- 4.4.1. All candidate results shall be obtained in accordance with Section 5.2 during one rope access evaluation.
 - 4.4.1.1. Results from an unsuccessful rope access evaluation shall not be used to fulfill requirements during a subsequent rope access evaluation.
- 4.4.2. Once results of successful completion of a rope access evaluation and written test are submitted, provisional certification information, valid for 60 days, is available on SPRAT's online system.
- 4.4.3. Certificates are available within a rope access technician's account and certification cards are processed after the SPRAT Office has received rope access evaluation fees and verified certification information.
- 4.4.4. Any current certification is retained in case of failure of a rope access evaluation.

4.5. Complaints and Appeals

- 4.5.1. Complaints and appeals shall be submitted within 60 days of a rope access evaluation.
- 4.5.2. When possible, the SPRAT Office shall anonymize documentation of a complaint or appeal prior to providing the redacted information to the Evaluations Committee.
- 4.5.3. Complaints and appeals are addressed once by the Evaluations Committee and Board of Directors.

5. Introduction to Rope Access Evaluation Supplementary Information and Evaluation Criteria

5.1. This table provides requirements at each certification level from *Rope Access Certification Requirements (RCR)*.

Technician Evaluation Form		Level I	Level II	Level III
Rope Access Program	Roles and Responsibilities	6.1	7.2	8.2
	Equipment Use and Inspection	6.2	7.3	8.4
	Job Safety	6.3	7.4	8.5
	Management and Communication			8.3
	Team Scenario			8.7
Individual Maneuvers	Use of Backup Devices	6.5		
	Use of Descenders	6.6		
	Use of Ascenders	6.7		
	Change-overs	6.8		
	Passing Knots	6.9		
	Rope-to-Rope Transfer	6.10		
	Deviation	6.11		
	Re-anchor (>2 m)	6.12		
	Negotiate Edge	6.13		
	Rope and Sling Protection	6.14		
	Horizontal Aid Climbing	6.16		
	Vertical Aid Climbing		7.9	
Rescue	Level 1 Rescue Exercise	6.17		
	Pick-off Rescue of Casualty Through Knots		7.10	
	Pick-off Rescue of Casualty through Deviation or Re-anchor			8.8.1
	Pick-off Rescue of Casualty from mid Re-anchor or Rope-to-Rope			8.8.2
	Rescue from Horizontal Aid Climbing		7.11	
Rigging	Knots: <input type="checkbox"/> end <input type="checkbox"/> join <input type="checkbox"/> mid <input type="checkbox"/> stop	6.4		
	Hitches: <input type="checkbox"/> prusik <input type="checkbox"/> tied-off münter hitch		7.6	
	Rigging and System Dynamics		7.5	
	Anchorage Systems	6.15	7.7	
	Hauling and Lowering System	6.18		
	Rope Access System Pre-rigged to Lower		7.12	
	Retrievable Rope Systems		7.8	
	Pitch Head Break in and Lower		7.13	
	Cross-haul		7.14	
	Hauling and Lowering Through Knots			8.9
	Tensioned Rope Systems			8.10

- 5.2. Proficiency of requirements of [RCR 7.1](#) and [RCR 8.1](#) is addressed in the following manner:
- 5.2.1. All level I candidates shall complete all white boxes in the Level I column.
 - 5.2.2. All level II candidates shall complete all white boxes in the Level II column.
 - 5.2.3. Currently certified candidates testing at Level III shall complete all white boxes and at least 50% of the gray boxes in each category of the Level III column.
 - 5.2.3.1. Direct Entry and candidates with expired certifications testing at Level III shall complete all gray and white boxes in the Level III column
 - 5.2.4. Direct entry and expired upper-level candidates shall complete the [Level 1 Rescue Scenario](#).
 - 5.2.4.1. This requirement may be combined within another upper-level rescue on the same *two-rope system*.
- 5.3. The following table provides details of the requirement information, as presented in the next sections:

Requirement as stated in *Rope Access Certification Requirements*

Sub-Requirements:

Sub-requirements as stated in *Rope Access Certification Requirements*

Interpretation:

Evaluations Committee interpretation of requirement and individual sub-requirements.

As appropriate, examples of how each requirement and/or sub-requirement are evaluated.

Training Considerations:

Preparations for a candidate for successful completion of a requirement.

5.4. Evaluation Criteria

- 5.4.1. The following table presents examples of grading examples for the rope access evaluation.
- 5.4.2. Criteria are derived from performance principles of Section 4 of *Rope Access Certification Requirements*.
- 5.4.3. SPRAT’s *Evaluation Rubric* provides additional pass, **discrepancy**, and **fail** examples.
- 5.4.4. Aggravating or mitigating circumstances may cause an evaluator to deviate from this guidance.

Fail examples	Discrepancy examples
General:	
Unacceptably slow at completing a required task	Task not completed in timely manner
Inability to complete task	Violation of access work plan
No fall protection in fall zone	Dropped equipment
	Candidate displays insufficient equipment knowledge
Equipment use:	
Free fall potential of backup system > 1.2 m (4 ft)	Free fall potential of backup system > 0.6 m (2 ft)
Free fall potential of main system > 0.6 m (2 ft)	Free fall potential of main system > 0.3 m (1 ft)
No backup system in conjunction with a main system	Descending without brake hand on rope
Backup device or descender threaded incorrectly and used	Defeating backup device via inappropriate handling
Maneuvers:	
Rope to rope transfer and re-anchor :	Re-anchor :
No backup system to near or far side while off plumb >20° or >0.6 m (2 ft) horizontally	Ropes to lower level brought across during maneuver
Knot pass:	Edge negotiation:
Use of knot simulating damaged rope as connection	Backup device lanyard exposed to edge
Deviation:	
Directional anchorage system used as replacement of main or backup system	
System Construction and Operations:	
No backup system to load	Knot undressed – twists or loose
Main and backup ropes solely connected to the same carabiner	Excessive tensioning of system
Single upper control rope in angled tension rope system	Candidate attached to haul system on platform
Rescue:	
Incompatible backup system configuration	No extra friction
Casualty suspended from single system	

6. Level I Technician Requirement Supplementary Information

6.1. Roles and Responsibilities

Sub-Requirements:

6.1.1. Candidate shall be able to demonstrate an understanding of the responsibilities of a *Level I Technician* and how these fit into the overall responsibilities of a rope access program.

Interpretation:

Candidates are expected to demonstrate knowledge of the responsibilities of a rope access technician provided in Section 5 of *Safe Practices for Rope Access Work*.

Candidates are expected to complete requirements in accordance with the performance principles of *Rope Access Certification Requirements*, and with *Safe Practices for Rope Access Work*.

Candidates are expected to participate in group exercises with the knowledge and skill required at their desired level of certification.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Review of SPRAT's *Candidate Preparation Form*.
- Review of Section 5 and related sections of *Safe Practices for Rope Access Work*.
- Review of site *access work plan*.

6.2. Equipment Use and Inspection

Sub-Requirements:

6.2.1. Candidate shall be able to demonstrate understanding of the use, inspection, and care of all equipment required for the technical skills of a *Level I Technician*.

6.2.2. Candidate shall understand the requirements of an *employer's* equipment management program as required by *Safe Practices for Rope Access Work*.

Interpretation:

Candidates should be familiar with equipment management requirements, and are expected to use and inspect equipment in accordance with Section 13 of *Safe Practices for Rope Access Work*.

Candidates are expected to perform pre-use inspection of their personal equipment at the beginning of the rope access evaluation and following any breaks.

Candidates are expected to use equipment with compatible components in accordance with manufacturer specifications.

Candidates are expected to be able to answer questions related to information provided in [Appendix 1](#) regarding equipment used to complete requirements.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Review of Section 13 of *Safe Practices for Rope Access Work*.
- Review of [Appendix 1](#) in relation to equipment used by candidates.
- Review of manufacturer specifications for equipment used by candidates.

6.3. Job Safety

Sub-Requirements:

- 6.3.1. Candidate shall demonstrate an understanding of the rope access program safety requirements as stated in *Safe Practices for Rope Access Work*.
- 6.3.2. Evaluation site safety policies shall be followed.

Interpretation:

Candidates are expected to be familiar with *access work plan* requirements of Section 9 of *Safe Practices for Rope Access Work*.

Candidates are expected to adhere to the site *access work plan* during the rope access evaluation.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Review of Section 9 and related sections of *Safe Practices for Rope Access Work*.
- Review of SPRAT's [Access Work Plan Checklist](#).
- Review of site *access work plan*.

6.4. Knots

Sub-Requirements:

- 6.4.1. Candidate shall demonstrate the tying of the following knots and have an awareness of their applications, strengths, and limitations:
- 6.4.1.1. End or termination knot (e.g., Figure 8 on a bight, Figure 9 on a bight, Bowline)
 - 6.4.1.2. Knot to join two ropes (e.g., Double Fisherman's Bend, Flemish Bend)
 - 6.4.1.3. Middle knot (e.g., Alpine Butterfly)
 - 6.4.1.4. Stopper knot to prevent descending off end of ropes (e.g., barrel knot)

Interpretation:

Knots tied by candidates are expected to be:

- Suitable for the application.
- Tied with an appropriately sized bight, loop, and/or tail.
- Identifiable.
- Dressed.

An estimate for strength reduction from a knot is sufficient (~30-50%).

A Flemish bend is equivalent to a Figure 8 bend (*RCR 6.4.1.2*).

A barrel knot is equivalent to a double overhand knot (*RCR 6.4.1.4*).

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Nomenclature of knots and knot elements.
- Tying of individual knots.
- Application of knots within completion of other requirements.
- Review of hazards associated with inappropriate tying of knots.

6.5. Use of Backup Devices

Sub-Requirements:

- 6.5.1. Candidate shall demonstrate the use of a backup device in accordance with manufacturer specifications.
- 6.5.2. Candidate should pay attention to:
 - 6.5.2.1. Positioning the device to minimize free fall potential.
 - 6.5.2.2. Connecting to the device with a compatible lanyard type and length.
 - 6.5.2.3. Pairing the device to a compatible rope type and diameter.
 - 6.5.2.4. Not defeating the device through inappropriate handling.

Interpretation:

Candidates are expected to use backup devices with compatible components in accordance with manufacturer specifications. See [Appendix 1](#) for more information.

Candidates are expected to maintain an effective **backup system** with **limited free fall potential** during the rope access evaluation. Some maneuvers may require multiple **backup systems**.

An effective **backup system** is considered sufficient protection for a candidate standing or sitting on a stable working surface or climbing a structure in a **fall zone**.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Review of Performance Principles in *Rope Access Certification Requirements*.
- Review of [Appendix 1](#) and manufacturer specifications in relation to backup devices used by candidates.
- Pre-inspection, installation, and use of backup device.
- Use of backup devices within completion of other requirements.

6.6. Use of *Descenders*

Sub-Requirements:

- 6.6.1. Candidate shall demonstrate the use of a **descender** in accordance with manufacturer's specifications.
- 6.6.2. Candidate shall demonstrate:
 - 6.6.2.1. Descending in a controlled manner.
 - 6.6.2.2. Stopping, and locking or tying off the **descender** as appropriate.
 - 6.6.2.3. Ascending at least 2 m (6.6 ft).
- 6.6.3. Candidate should pay attention to:
 - 6.6.3.1. Locking or tying off the **descender** when candidate is stopped and not in control of the slack end of the rope.
 - 6.6.3.2. Operating or triggering a **descender** without appropriate control of the slack end of the rope.

Interpretation:

Candidates are expected to use descenders with compatible components in accordance with manufacturer specifications. See [Appendix 1](#) for more information.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Review of Performance Principles in *Rope Access Certification Requirements*.
- Review of [Appendix 1](#) and manufacturer specifications in relation to **descenders** used by candidates.
- Pre-inspection, installation, and use of **descenders** for descent, ascent, and positioning.
- Use of **descenders** within completion of other requirements.

6.7. Use of *Ascenders*

Sub-Requirements:

- 6.7.1. Candidate shall demonstrate the use of *ascenders* in accordance with manufacturer's specifications.
- 6.7.2. Candidate shall demonstrate:
 - 6.7.2.1. Ascending 10 m (32.8 ft).
 - 6.7.2.2. Down-climbing 2 m (6.6 ft).
- 6.7.3. Candidate should pay attention to:
 - 6.7.3.1. Attaching the *ascenders* to the harness to increase safety and prevent equipment from being inadvertently dropped.
 - 6.7.3.2. Using *ascenders* in such a way to eliminate a dynamic fall onto an *ascender*.
 - 6.7.3.2.1. A single *ascender* connection to the *main rope* is acceptable as long as the free fall potential is limited to less than 0.3 m (1 ft) or eliminated entirely.

Interpretation:

Candidates are expected to use descenders with compatible components in accordance with manufacturer specifications. See [Appendix 1](#) for more information.

Static loading and positioning with a single *ascender* are permissible.

Candidates ascending or descending rope with *ascenders* are expected to be attached to both *ascenders*.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Review of Performance Principles in *Rope Access Certification Requirements*.
- Review of [Appendix 1](#) and manufacturer specifications in relation to *ascenders* used by candidates.
- Pre-inspection, installation, and use of *ascenders* for both ascent, short descent, and positioning.
- Use of *ascenders* within completion of other requirements.

6.8. Change-overs

Sub-Requirements:

- 6.8.1. Candidate shall demonstrate switching from *ascent mode* to *descent mode* and from *descent mode* to *ascent mode*.
- 6.8.2. Candidate should pay attention to careful handling of equipment and loading of *carabiners* during the maneuver.

Interpretation:

Candidates will be observed performing change-overs throughout the rope access evaluation.

Candidates are expected to install *descender* on the rope below the chest *ascender* with minimal rope between the equipment when performing a change-over from *ascent mode* to *descent mode*.

To minimize elevation loss during the maneuver, candidates may back-feed their *descender* when performing a change-over from *ascent mode* to *descent mode*.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Ascent and descent with both *ascenders* and *descenders*.
- Installation and removal of *ascenders* and *descenders* while in suspension.

6.9. Passing Knots

Sub-Requirements:

6.9.1. Candidate shall demonstrate ascending and descending past knots tied in both *backup* and *main ropes*.

6.9.2. Knots to be passed shall not be used as an attachment point.

Interpretation:

Candidates are expected to ascend and descend past knots that either join ropes together or simulate isolating damaged sections of rope.

Knots to be passed are expected to be placed on both the *main* and *backup ropes* at a similar height, a minimum of 2 m (6.6 ft) above the next lower level.

If no dedicated *two-rope system* exists for passing knots, candidates may be asked to ascend, tie knots on both the *main* and *backup ropes* approximately 2 m (6.6 ft) below them, descend past the knots, change-over, and ascend past the knots.

Knots used to simulate isolating damaged sections of rope shall not be used as an attachment during completion of the requirement.

If completed in accordance with [RCR 6.7.3.2.1.](#), candidates may ascend past knots while only being attached to a single *ascender*. However, this technique is often precluded by the length of connection between the harness and the *ascender*. A backup device or *descender* may be used to protect against potential dynamic loading on an *ascender*. If a descender is used, slack above the *descender* should be removed to minimize potential dynamic loading of the harness at the ventral connection.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Applications of passing knots.
- Ascent and descent with both *ascenders* and *descenders*.
- Installation and removal of *ascenders* and *descenders* while in suspension.
- Change-overs.
- Tying middle and/or join knots while in suspension.

6.10. Rope-to-Rope Transfer

Sub-Requirements:

- 6.10.1. Candidate shall demonstrate transferring from one **two-rope system** to another separated by more than 2 m (6.6 ft).
- 6.10.2. Connection to 4 ropes is expected to control the swing potential if one rope were to fail during the maneuver.
- 6.10.3. Two backup devices may be used; alternatively, candidate may use an appropriate knot as a backup.

Interpretation:

Candidates are expected to move from **descent mode** to **ascent mode** when transferring between **two-rope systems** separated by more than 2 m (6.6 ft).

An effective **backup system** is expected to be established and maintained on both the initial and destination **two-rope systems** to minimize potential **swing fall** throughout the maneuver.

Candidates are not expected to return to the initial **two-rope system** after completing the maneuver.

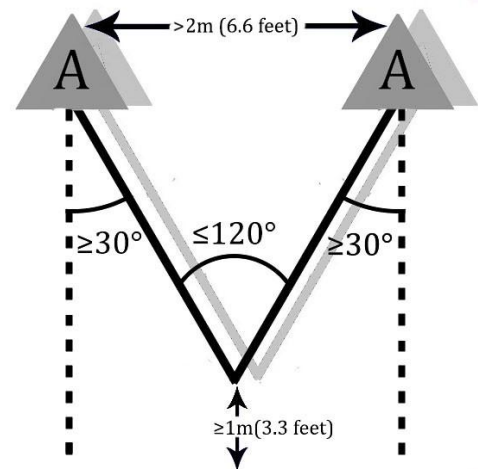
A middle knot may be used to establish a **backup system** if rope or lanyard tangles are present while a candidate completes the exercise.

If **rope access technicians** will conduct work within a rope-to-rope transfer, **descenders** should be used within both **main systems**. Pre-rigging both **two-rope systems** to lower should be considered to facilitate **rescue**.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Applications of rope-to-rope transfers.
- Movement in **descent mode** and **ascent mode**.
- Change-overs.



6.11. Deviation

Sub-Requirements:

6.11.1. Candidate shall demonstrate ascending and descending past a **directional anchorage system** that deviates the **fall line** of a **two-rope system** by no more than 20 degrees.

6.11.1.1. A single **directional anchorage system** is acceptable if there is no safety consequence of its failure.

6.11.1.2. The **directional anchorage system** shall not be relied upon as a primary point of connection.

6.11.1.3. Provision for returning to the **directional anchorage system** from above and facilitating a rescue or repeated use from below should be considered.

Interpretation:

Candidates are expected to remain in either **ascent mode** or **descent mode** while passing the **directional anchorage system**.

Connections may be made to the **directional anchorage system**, are not considered a replacement of either the **main** or **backup system**.

Knots placed on the ropes below the **directional anchorage system** should be, at a minimum, a distance equal to the horizontal adjustment of the **fall line** by the **directional anchorage system**.

Multiple connectors at the **directional anchorage system** may be used to facilitate passing the **deviation**. These connectors may be located at different distances from the **anchorage system** as long as the ability to perform prompt **rescue** is maintained.

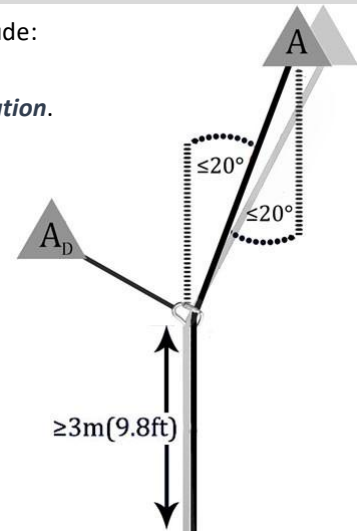
Multiple **directional anchorage systems** should be considered in a deviation when:

- Potential swing fall exceeds 0.3 m (1 ft).
- **Directional anchorage system** failure creates a risk to the rope access technician or components of the **rope access system**.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Applications of **deviations**.
- Considerations for the use of multiple **directional anchorage systems** in a **deviation**.
- Movement in **descent mode** and **ascent mode**.
- Change-overs.



6.12. Re-anchor

Sub-Requirements:

- 6.12.1. Candidate shall demonstrate ascending and descending past intermediate *fixed anchorage systems* that adjust the fall line of a *two-rope system* by more than 2 m (6.6 ft).
- 6.12.2. The candidate should use four-point technique similar to that used in a rope-to-rope transfer and shall not pull the rope from below the *anchorages* across the area during the maneuver.

Interpretation:

Candidates are expected to negotiate a *re-anchor* while avoiding its lowest point.

Candidates may need to return through the *re-anchor* if ropes reaching a lower level are not present. See the schematic below.

Ropes reaching a lower level in this maneuver are expected to remain vertical as they may be needed to facilitate *rescue* or there may be a hazard below the horizontal span of the *re-anchor*.

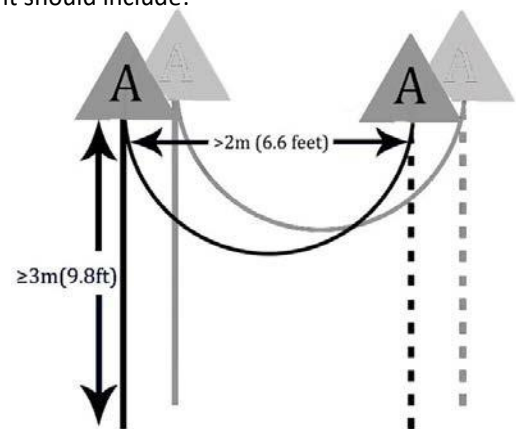
If *rope access technicians* will conduct work within a *re-anchor*, similar rigging, and work practices as those specified for *rope-to-rope transfers* should be considered.

A re-anchor should typically have a sag deeper than the greater of either half the horizontal span or 1 m (3.3 ft).

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Applications of *re-anchors*.
- Movement in *descent mode* and *ascent mode*.
- Change-overs.
- Considerations for working within a *re-anchor*.



6.13. Negotiate Edge

Sub-Requirements:

- 6.13.1. Candidate shall demonstrate negotiating an edge obstruction in *ascent mode* and *descent mode*.
- 6.13.2. This task should simulate field conditions experienced when negotiating the edge of a roof, cliff face, or parapet wall.
- 6.13.3. The *anchorages* should be at least 2 m (6.6 ft) from an unprotected edge and be located on the horizontal surface or within 2 m (6.6 ft) above the horizontal surface.
- 6.13.4. If the edge is protected by a railing, candidate may need to climb under or through the railing to demonstrate the edge negotiation.
- 6.13.5. Edge protection, controlled movement, and avoidance of dynamic loads shall be demonstrated.

Interpretation:

Candidates are expected to ascend and descend past an edge while *on-rope*.

Candidates are expected to maintain an effective *backup system* and protect all equipment from hazards while negotiating an edge.

All *two-rope systems* over edges are expected to have rope and/or edge protection.

Candidates may remain in *ascent mode* to negotiate edge while ascending over the edge.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Use of rope ladders, etriers, and/or adjustable foot loops.
- Rope and edge protection considerations ([RCR 6.14](#)).
- Movement in *descent mode* and *ascent mode*.
- Transition to and from a *rope access system* while in a *fall zone*.

6.14. Rope and Sling Protection

Sub-Requirements:

- 6.14.1. Candidate shall demonstrate use of rope and sling protection as required by the evaluation site.
- 6.14.2. Candidate shall pass a rope protector installed on both the *main* and *backup ropes*.

Interpretation:

Candidates are expected to use rope and edge protection during edge negotiation and as appropriate throughout the rope access evaluation.

The types of rope protection are not specified, but are expected to be suitable to the site.

Main and *backup ropes* may be protected individually or together.

Factors affecting the need for, and effectiveness of rope and edge protection include the:

- Nature of the edge and surface.
- Chance for horizontal movement of equipment along edge.
- Chance for vertical movement perpendicular to edge.
- Internal angle of rope(s) caused by the edge.
- Angle at which rope(s) pass the edge.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Review of factors affecting need for, and effectiveness of rope and edge protection.
- Review of types of rope and edge protection.

6.15. Rigging *Anchorage Systems*

Sub-Requirements:

6.15.1. Simple Structural *Anchorage System*

- 6.15.1.1. Candidate shall demonstrate establishing an *anchorage system* using a structural member (e.g., steel beam).
- 6.15.1.2. Appropriate use of hardware, choice of sling material, and appropriate sling protection shall be considered.

6.15.2. Load Sharing *Anchorage System*

- 6.15.2.1. Candidate shall demonstrate establishing a load sharing *anchorage system* with two *anchorages* or *anchorage connectors* less than 1 m (3.2 ft) apart horizontally (e.g., bolt anchors in concrete or rock).
- 6.15.2.2. Considerations for establishing a load-sharing *anchorage system* should include:
 - 6.15.2.2.1. Failure consequences.
 - 6.15.2.2.2. Anchorage location.
 - 6.15.2.2.3. Bridle angle.
 - 6.15.2.2.4. Anchorage connector loading.
 - 6.15.2.2.5. Sling Choice.
 - 6.15.2.2.6. Edge protection.

Interpretation:

Candidates are expected to demonstrate an understanding of the sub-requirements of *RCR 6.15* when constructing simple structural and load sharing *anchorage systems*.

Candidates may complete requirement as a separate exercise or combined with others, such as [RCR 6.4](#) or [RCR 6.18](#). For example, a candidate may be asked to create a *two-rope system* utilizing one simple structural *anchorage system* and one load sharing *anchorage system*.

Candidate are expected to understand reasons for establishing a load sharing *anchorage system*, such as achieving a desired *anchorage system* strength or a more desirable *fall line*.

Table 1 in *Safe Practices for Rope Access Work* presents forces applied to an *anchorage system* in an equally distributed load-sharing anchorage system as a function of the interior (bridle) angle.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Applications of load-sharing anchorage systems.
- Considerations for load-sharing anchorage systems.
- Rope and edge protection considerations ([RCR 6.14](#)).
- Examples of *anchorages* and *anchorage systems*.

6.16. Horizontal *Aid Climbing*

Sub-Requirements:

6.16.1. Candidate shall demonstrate horizontal *aid climbing* while maintaining connections to two independent *anchorage systems*.

6.16.2. The candidate shall demonstrate horizontal movement using either *fixed* or movable *anchorage systems*.

Interpretation:

Candidate are expected to demonstrate aid climbing a minimum of 3 m (9.8 ft), maintaining *limited free fall potential* throughout the maneuver.

Candidates are expected to transition to and from *aid climbing* via a *rope access system* or via structural climbing with an effective *backup system*.

Candidates using movable *anchorage systems* may be asked to pass an obstacle during completion of the maneuver.

Equipment selection considerations should include ease of *rescue*.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Aid climbing equipment configurations and considerations.
- Simulating *aid climbing* while on the ground or on a protected part of a platform.
- Aid climbing with both *fixed* and movable *anchorage systems*.
- Transitioning to and from *aid climbing* from another *rope access system* or fall protection system.

6.17. *Level I Technician* Rescue Exercise

Sub-Requirements:

- 6.17.1. Candidate shall perform a pick-off rescue of a casualty that is in *ascent mode*.
- 6.17.2. Candidate shall approach casualty on an adjacent set of ropes.
- 6.17.3. Candidate shall perform a change-over of the casualty from *ascent mode* to *descent mode*.
- 6.17.4. Candidate shall then perform a rescue from descent.

Interpretation:

Demonstration of this requirement uses techniques that may be applied in the following rescues:

- Rescue from ascent.
- Rescue from descent.
- Rescue from a failed *main system*.
- Rescue from long ropes.

Requirement components also introduce the ability to move another *rope access technician* using their equipment in a manner similar to individual maneuvers, which may be applied to more complicated *rescues*.

Candidates are expected to approach the candidate from above or below, and to be as close to the casualty as is practical to facilitate the change-over of the casualty.

The requirement may be combined with others. For example, if the site permits, a candidate could be asked to establish a *two-rope system* adjacent to the casualty in accordance with [RCR 6.15.](#), negotiate an edge in accordance with [RCR 6.13.](#), and then perform this rescue.

Typically, the *main* and *backup ropes* of the casualty remain the same during the change-over of the casualty. *Main* and *backup ropes* of the casualty may be swapped during this change-over. However, this approach may not be directly applicable to rescues where adjacent ropes are unavailable or for rescues where rope elongation may be a factor.

Either the candidate's or the casualty's equipment connected to a *main* and *backup system* may be used to descend to the next lower level.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Rescue from descent.
- Methods for performing a change-over of a casualty.

6.18. Rigging and Operating a Hauling and Lowering System

Sub-Requirements:

- 6.18.1. While working from a platform or ground level, a lone candidate shall demonstrate raising and lowering a load while using an appropriate *descender* attached to an *anchorage system*.
- 6.18.2. Candidate may be asked to stop and lock-off the *descender*. A *fixed backup system* shall be used and managed by the candidate.
- 6.18.3. Candidate may begin with raising or lowering the load, and shall not be required to negotiate an edge with the load.
- 6.18.4. A mechanical advantage system shall be used when raising the load.

Interpretation:

Candidates are expected to establish and operate the hauling and lowering systems as an individual exercise.

If upper-level candidates are present, this requirement may be combined within [RCR 7.14](#) or [RCR 8.7](#).

Typically, a *descender*, used in conjunction with a backup device, is used for both the hauling and lowering applications. Dual *main systems* may be used as appropriate.

Candidates are expected to incorporate a lanyard or other compatible extension between the backup device and the *anchorage system* to facilitate simultaneous management of the *main* and *fixed backup systems*.

Candidates may build a mechanical advantage system integrally with the *main rope* or may use an external mechanical advantage system. Candidates are expected to know the theoretical mechanical advantage of the system that is used.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Establishing and operating a fixed backup system.
- Establishing and operating a lowering system.
- Establishing and operating a hauling system.
- Calculating mechanical advantage.

7. Level II Technician Requirement Supplementary Information

7.1. Candidate shall be proficient in *Level I Technician* requirements.

Interpretation:

Candidates are expected to be competent in all the certification requirements of a *Level I Technician*.

See Section 5.2 for more information.

Training Considerations:

See Section 6 for more information.

7.2. Roles and Responsibilities

Sub-Requirements:

7.2.1. Candidate shall demonstrate an understanding of the responsibilities of a *Level II Technician* and how these fit into the overall responsibilities of an *employer's* rope access program.

Interpretation:

Candidates are expected to demonstrate knowledge of the responsibilities of a rope access technician provided in Sections 5 of *Safe Practices for Rope Access Work*.

Candidates are expected to demonstrate knowledge of the Rope Access Supervisor responsibilities and eligibility provided in Sections 4 and 8 of *Safe Practices for Rope Access Work*.

Candidates are expected to complete requirements in accordance with the performance principles of *Rope Access Certification Requirements*, and with *Safe Practices for Rope Access Work*.

Candidates are expected to participate in group exercises with the knowledge and skill required at their desired level of certification.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Review of SPRAT's *Candidate Preparation Form*.
- Review of Sections 4, 5, 8, and related sections of *Safe Practices for Rope Access Work*.
- Review of SPRAT's *Supervisor Checklist*.
- Review of site *access work plan*.

7.3. Equipment Use and Inspection

Sub-Requirements:

- 7.3.1. Candidate shall be able to demonstrate understanding of the use, inspection, and care of all equipment required for the technical skills of a **Level II Technician**.
- 7.3.2. The candidate should understand an **employer's** equipment management program as required by *Safe Practices for Rope Access Work*.

Interpretation:

Candidates should be familiar with equipment management requirements, and are expected to use and inspect equipment in accordance with Section 13 of *Safe Practices for Rope Access Work*.

Candidates are expected to perform pre-use inspection of their personal equipment at the beginning of the rope access evaluation and following any breaks.

Candidates are expected to use equipment with compatible components in accordance with manufacturer specifications.

Candidates are expected to be able to answer questions related to information provided in [Appendix 1](#) regarding equipment used to complete requirements.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Review of Section 13 of *Safe Practices for Rope Access Work*.
- Review of [Appendix 1](#) in relation to equipment used by candidates.
- Review of manufacturer specifications for equipment used by candidates.

7.4. Job Safety

Sub-Requirements:

- 7.4.1. Candidate shall demonstrate an understanding of the rope access program safety requirements as stated in *Safe Practices for Rope Access Work*.
- 7.4.2. Evaluation site safety policies shall be followed.

Interpretation:

Candidates are expected to be familiar with **access work plan** requirements as stated in Section 9 of *Safe Practices for Rope Access Work*.

Candidates are expected to adhere to the site **access work plan** during the rope access evaluation.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Review of Section 9 and related sections of *Safe Practices for Rope Access Work*.
- Review of SPRAT's [Access Work Plan Checklist](#).
- Review of site **access work plan**.

7.5. Rigging and System Dynamics

Sub-Requirements:

7.5.1. Candidate should understand the forces involved in rigging *rope access systems*, including concepts such as angle physics and dynamic loading.

Interpretation:

Candidates are expected to be able to describe dynamic loading of a *backup system* in the case of failure of a *main system*.

Candidates are expected to understand factors affecting clearance requirements. See SPRAT's *Clearance Requirement Guidelines* for more information.

Candidates are expected to be able to estimate forces within systems that they establish to complete requirements, such as *RCR 7.7* and *RCR 7.14*.

Table 1 in *Safe Practices for Rope Access Work* presents forces applied to an *anchorage system* in an equally distributed load-sharing anchorage system as a function of the interior (bridle) angle.

Table 2 in *Safe Practices for Rope Access Work* presents forces on a *directional anchorage system* as a function of the applied load.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Review of *Clearance Requirement Guidelines*.
- Review of Tables 1 and 2 in *Safe Practices for Rope Access Work* and their applications in Level II requirements.

7.6. Knots and Hitches

Sub-Requirements:

7.6.1. In addition to the knots required of a *Level I Technician*, the candidate shall demonstrate the tying and dressing of a:

7.6.1.1. Prusik hitch.

7.6.1.2. Tied-off MÜNTER hitch.

Interpretation:

Candidates may demonstrate these knots as a separate exercise, or the knots may be observed while completing other requirements throughout the rope access evaluation, such as *RCR 7.12* and *RCR 7.13*.

Candidates are expected to tie a 3-wrap prusik hitch using cord diameter at least 2 mm (0.08 in) smaller than the rope on which it is applied. The application of the prusik hitch determines the MBS of the cord used.

Candidates are expected to tie-off a mÜNTER hitch in a releasable manner that is further secured to prevent inadvertent release.

Candidates may be asked to demonstrate releasing and operating a mÜNTER hitch for descent or lowering operations. Candidates shall not be asked to ascend using a mÜNTER hitch.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Review of applications of prusik and mÜNTER hitches.
- Tying and dressing of a prusik hitch used as a *rope grab*.
- Tying, securing, and releasing a mÜNTER hitch under tension to lower a load and for descent.

7.7. Load-sharing **Anchorage Systems**

Sub-Requirements:

7.7.1. Candidate shall demonstrate establishing a 2-point load sharing **anchorage system** in one of the following situations:

7.7.1.1. Two **anchorages** or **anchorage connectors** greater than 2 m (6.6 ft) apart horizontally (perpendicular to the plane of the rope).

7.7.1.2. Two **anchorages** or **anchorage connectors** greater than 2 m (6.6 ft) apart vertically (parallel to the plane of the rope).

7.7.2. Considerations for establishing a load-sharing **anchorage system** should include:

7.7.2.1. Failure consequences.

7.7.2.2. Anchorage location.

7.7.2.3. Bridle angle.

7.7.2.4. Anchorage connector loading.

7.7.2.5. Sling Choice.

7.7.2.6. Edge protection.

Interpretation:

Candidates are expected to demonstrate an understanding of the sub-requirements of *RCR 7.7.2* when constructing load sharing **anchorage systems**.

Candidates may complete requirement as a separate exercise or combined with others, such as [RCR 7.12](#) or [RCR 7.14](#). For example, a candidate may be asked to create a **two-rope system** utilizing one simple structural **anchorage system** and one load sharing **anchorage system**.

Candidate are expected to understand reasons for establishing a load sharing **anchorage system**, such as achieving a desired **anchorage system** strength or a more desirable **fall line**.

Table 1 in *Safe Practices for Rope Access Work* presents forces applied to an **anchorage system** in an equally distributed load-sharing anchorage system as a function of the interior (bridle) angle.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Applications of load-sharing anchorage systems.
- Considerations for load-sharing anchorage systems.
- Rope and edge protection considerations ([RCR 6.14](#)).
- Examples of **anchorages** and **anchorage systems**.

7.8. Retrievable *Rope Systems*

Sub-Requirements:

7.8.1. Candidate shall demonstrate a method to retrieve ropes from a structural *anchorage* after descent.

7.8.2. Considerations include:

7.8.2.1. Connector loading.

7.8.2.2. Edge protection.

7.8.2.3. Rope abrasion.

Interpretation:

Candidates are expected to demonstrate retrieval of *rope systems* considering the criteria presented in *RCR 7.8.2*.

Candidates are expected to delineate the pull ropes in some manner to prevent incorporating the incorrect ropes within a *rope access system*. For example, pull ropes may be coiled until the candidate incorporates the retrievable *rope systems* within a *rope access system*, or may use a different rope as a pull rope.

Candidate may be asked to demonstrate retrievable *rope systems* as a separate exercise or combined with another, such as [RCR 7.11](#).

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Methods for establishing retrievable *rope systems*.
- Considerations for retrievable *rope systems*.

7.9. Vertical *Aid Climbing*

Sub-Requirements:

7.9.1. Candidate shall demonstrate vertical *aid climbing* on *anchorage systems* spaced 45 cm (1.5 ft) apart or less, for a minimum distance of 3 m (9.9 ft).

Interpretation:

Candidate are expected to demonstrate vertical *aid climbing* while maintaining *limited free fall potential* throughout the maneuver.

Candidates are expected to transition to and from *aid climbing* via a *rope access system* or via structural climbing with an effective *backup system*.

Equipment selection considerations should include ease of *rescue*.

This requirement may be combined with other requirements, such as [RCR 7.11](#).

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Aid climbing equipment configurations and considerations.
- Aid climbing with *fixed anchorage systems*.
- Transitioning to and from *aid climbing* from another *rope access system* or fall protection system.

7.10. Pick-off Rescue of Casualty Through Knots

Sub-Requirements:

- 7.10.1. Candidate shall perform a pick-off rescue of a casualty, from either *ascent mode* or *descent mode*, with knots in both *backup* and *main ropes*.
- 7.10.2. The casualty shall be suspended a distance of at least 60 cm (2 ft) above both knots.
- 7.10.3. The candidate shall then descend with the casualty while negotiating the obstacle.
- 7.10.4. Knots to be passed shall not be used as an attachment point.

Interpretation:

Candidates shall rescue a casualty in *ascent mode* or *descent mode* as directed by the evaluator. Prior to beginning the rescue, knots in the ropes are expected to be at a location similar to that of [RCR 6.9](#). Candidates are expected to perform the pick-off element prior to the knot passing element of the requirement. Candidates may use any method or equipment to pass the knots. If candidates use additional ropes, they are expected to transfer back to the original *two-rope system* prior to completion of the exercise. This requirement is typically completed by a candidate swapping their *main* and *backup systems* using two *descenders*. A dual *main system* may be appropriate during this process or after passing the knots. While the requirement separates the casualty from the knots in the exercise, utilization of techniques covered within the [Level I Rescue Exercise](#) allow for rescuing a casualty that is located closer to a knot.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Pick-off rescues.
- Transferring *main* and *backup ropes* using two *descenders*.
- Elongation considerations from rope stretch and knot loading.

7.11. Rescue from Horizontal *Aid Climbing*

Sub-Requirements:

- 7.11.1. Candidate shall demonstrate rescuing a casualty from horizontal *aid climbing* to a designated location below one side of the traverse.
- 7.11.2. Candidate shall utilize a rope-to-rope transfer to reach the designated location with the casualty.

Interpretation:

Candidates are expected to rescue a casualty located between 20 cm (8 in) and 50 cm (19 in) below the lowest point of the *anchorage system*. Casualty shall use a *main system* realistic for performing *aid climbing*. The rope-to-rope transfer may be operated from *descenders* on either the candidate's or the casualty's harness. This requirement may be combined with others, such as [RCR 7.8.](#), and [RCR 7.9.](#)

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Considerations for lifting a casualty or load with limited overhead clearance.
- Considerations to lower a load or casualty while in suspension.
- Performing a rope-to-rope transfer with two *descenders*.

7.12. Rigging and Operating a *Rope Access System* Pre-rigged to Lower

Sub-Requirements:

- 7.12.1. Candidate shall establish a *two-rope system* for another *rope access technician* to use that allows for a *remote rescue*.
- 7.12.2. Once the *rope access technician* is *on-rope*, candidate shall demonstrate lowering the *rope access technician* to the ground.

Interpretation:

Candidates are expected to establish a *two-rope system* where either *rope system* could be used as a rope access technician's *main* or *backup system*.

Candidates are expected to demonstrate lowering a *rope access technician* or a load a minimum of 2 m (6.6 ft).

Lowering the *rope access technician* may be done by addressing the *main* and *backup systems* individually or simultaneously.

This requirement may be combined with others, such as [RCR 7.6.](#), [RCR 7.7.](#), and/or [RCR 6.13.](#)

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Equipment considerations to ensure both rope systems are pre-rigged to lower.
- Rope length considerations.
- Considerations to increase lowering efficiency.

7.13. Pitch Head Break in and Lower

Sub-Requirements:

- 7.13.1. Candidate shall demonstrate breaking into and lowering a load suspended from a *rope access system*.
- 7.13.2. Candidate shall be in suspension while performing this maneuver.
- 7.13.3. Load shall be suspended at least 1 m (3.3 ft) above grade, and shall be lowered to the grade.
- 7.13.4. Candidate may access the *anchorage systems* via any means.
- 7.13.5. Connections shall not be made to the load or the *two-rope system* suspending the load until the candidate is suspended from the *anchorage systems*.

Interpretation:

Candidates are expected to demonstrate the ability to raise and lower a distance specified by the evaluator.

Candidates are expected to use *rope grabs* to use an external mechanical advantage system to convert *fixed anchorage systems* into a hauling and lowering system rather than making direct connections to the load

Candidates are expected to understand the use of an additional *rope grab* extended from the *anchorage system* to allow for a mechanical advantage system to be established integrally with the *main rope* suspending the load.

Pre-rigged mechanical advantage systems may be used if the candidate can explain the applied mechanical advantage.

This requirement may be fulfilled as a separate exercise or combined with others such as [RCR 7.14.](#), and [RCR 6.18.](#)

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Hauling from platform with overhead *anchorages* and equipment.
- Using external mechanical advantage system with separate rope grab to capture progress.
- Hauling while in suspension.

7.14. Cross-Haul

Sub-Requirements:

- 7.14.1. Candidate shall demonstrate using two hauling systems in concert to move a load vertically and horizontally.
- 7.14.2. The load may start from the ground or platform level.
- 7.14.3. Candidate may operate both hauling systems or may direct another person to operate one of the hauling systems.

Interpretation:

Candidates are expected to demonstrate at least 2 m (6.6 ft) of lateral movement of an individual or load by using two hauling systems, each comprised of a *two-rope system*.

The two hauling systems may be operated from the same or separate locations.

This exercise may be combined with others such as [RCR 7.13](#) and [RCR 6.18](#).

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Hauling with anchorages at platform or ground level.
- Hauling with overhead anchorages.
- Hauling while in suspension.
- Table 1 and Table 2 of *Safe Practices for Rope Access Work*.

8. Level III Technician Requirement Supplementary Information

8.1. Candidate shall be proficient in *Level I* and *Level II Technician* requirements.

Interpretation:

Candidates are expected to be competent in all the certifications requirements of a *Level I* and *Level II Technician*. See Section 5.2 for more information.

Training Considerations:

See Sections 6 and 7 for more information.

8.2. Roles and Responsibilities

Sub-Requirements:

8.2.1. Candidate shall demonstrate a clear understanding of the responsibilities of a *Level III Technician* and how these fit into the overall responsibilities of an *employer's* rope access program as required by *Safe Practices for Rope Access Work*.

Interpretation:

Candidates are expected to demonstrate knowledge of the responsibilities of a rope access technician provided in Sections 5 of *Safe Practices for Rope Access Work*.

Candidates are expected to demonstrate knowledge of the Rope Access Supervisor responsibilities and eligibility provided in Sections 4 and 8 of *Safe Practices for Rope Access Work*.

Candidates are expected to complete requirements in accordance with the performance principles of *Rope Access Certification Requirements*, and with *Safe Practices for Rope Access Work*.

Candidates are expected to participate in group exercises with the knowledge and skill required at their desired level of certification.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Review of SPRAT's *Candidate Preparation Form*.
- Review of Sections 4, 5, 8, and related sections of *Safe Practices for Rope Access Work*.
- Review of SPRAT's *Supervisor Checklist*.
- Review of site *access work plan*.

8.3. Management and Communication

Sub-Requirements:

- 8.3.1. Candidate shall demonstrate an ability to manage the safety of other *rope access technicians* and the public.
- 8.3.2. Candidate shall demonstrate clear communication skills and be able to read, write, and speak in the language of the work place (unless provisions are made by an *employer* to provide a consistent and reliable translator).
- 8.3.3. Candidate should be familiar with using communication methods available in various field environments.

Interpretation:

Candidates are expected to lead team scenarios or act under direction of other upper-level candidates in team scenarios in accordance with [RCR 8.7](#).

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Review of Sections 9, 11, and related sections of *Safe Practices for Rope Access Work*.

8.4. Equipment Use and Inspection

Sub-Requirements:

- 8.4.1. Candidate shall be able to demonstrate a thorough understanding of the use, inspection, and care of all equipment required on a rope access work site.
- 8.4.2. Candidate should be able to manage and carry out an *employer's* equipment management program as required by *Safe Practices for Rope Access Work*.

Interpretation:

Candidates should be familiar with equipment management requirements, and are expected to use and inspect equipment in accordance with Section 13 of *Safe Practices for Rope Access Work*.

Candidates are expected to perform pre-use inspection of their personal equipment at the beginning of the rope access evaluation and following any breaks.

Candidates are expected to use equipment with compatible components in accordance with manufacturer specifications.

Candidates are expected to be able to answer questions related to information provided in [Appendix 1](#) regarding equipment used to complete requirements.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Review of Section 13 of *Safe Practices for Rope Access Work*.
- Review of [Appendix 1](#) in relation to equipment used by candidates.
- Review of manufacturer specifications for equipment used by candidates.

8.5. Job Safety

Sub-Requirements:

- 8.5.1. Candidate shall have a comprehensive knowledge of the rope access program safety requirements as stated in *Safe Practices for Rope Access Work*.
- 8.5.2. Evaluation site safety policies shall be followed.

Interpretation:

Candidates are expected to be familiar with *access work plan* requirements as stated in Section 9 of *Safe Practices for Rope Access Work*.

Candidates are expected to adhere to the site *access work plan* during the rope access evaluation.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Review of Section 9 and related sections of *Safe Practices for Rope Access Work*.
- Review of SPRAT's [Access Work Plan Checklist](#).
- Review of site *access work plan*.

8.6. Rigging and System Dynamics

Sub-Requirements:

- 8.6.1. Candidate shall understand the forces involved in rigging rope access systems including concepts such as angle physics and dynamic loading.

Interpretation:

Candidates are expected to be able to describe dynamic loading of a *backup system* in the case of failure of a *main system*.

Candidates are expected to understand factors affecting clearance requirements. See SPRAT's [Clearance Requirement Guidelines](#) for more information.

Candidates are expected to be able to estimate forces within systems that they establish to complete requirements, such as [RCR 8.10](#).

Table 1 in *Safe Practices for Rope Access Work* presents forces applied to an *anchorage system* in an equally distributed load-sharing anchorage system as a function of the interior (bridle) angle.

Table 2 in *Safe Practices for Rope Access Work* presents forces on a *directional anchorage system* as a function of the applied load.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Review of [Clearance Requirement Guidelines](#).
- Review of Tables 1 and 2 in *Safe Practices for Rope Access Work* and their applications in Level III requirements.

8.7. Team Scenario

Sub-Requirements:

- 8.7.1. Candidate will be given a rescue or work task to complete with the assistance of one or more individuals.
- 8.7.2. The Level III candidate will be evaluated on their ability to effectively:
 - 8.7.2.1. Communicate and delegate tasks.
 - 8.7.2.2. Safely manage the completion of the scenario.
- 8.7.3. Candidates supporting the operation are accountable for accomplishing tasks at their desired certification level and will be evaluated accordingly.
- 8.7.4. Supporting candidates that have completed their evaluation shall not be evaluated while supporting a team scenario.

Interpretation:

Candidates shall be provided time to plan completion of the scenario. Criteria for the planning phase include:

- Appropriate use of other individuals' abilities. Assisting candidates are assumed to have the abilities of their desired level of certifications.
- Equipment requirements.
- Efficiency of designed solution.
- Use of briefing aids.
- **Rescue** plan.

Candidates are expected to direct other individuals to construct and operate systems to safely and efficiently complete a **rescue** or work task.

Criteria for the completion of the scenario include:

- Management and communication.
- Delegation of responsibilities.
- Efficiency.

A work task shall not become a **rescue**, but candidates are expected to plan for **rescue**.

The evaluator may selectively limit a candidate's responsibility during a scenario so other candidates may be evaluated on their individual performance.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Review of criteria for scenario planning and completion.
- Iterations of scenarios incorporating requirements involving moving individuals or loads, such as [RCR 7.14](#) and [RCR 8.10](#).

8.8. Pick-off Rescue of Casualty while Negotiating Obstacles

Sub-Requirements:

8.8.1. Candidate shall perform a pick-off rescue of a casualty and descend with the casualty while negotiating one of the following:

8.8.1.1. *Deviation*

8.8.1.2. *Re-anchor*

8.8.2. Candidate shall perform a pick-off rescue of a casualty from within an obstacle. The casualty shall be mid-transfer in one of the following:

8.8.2.1. *Re-anchor*

8.8.2.2. Rope-to-Rope Transfer

Interpretation:

Candidates are expected to perform two separate *rescues*. Casualties may be in either *ascent mode* or *descent mode*, at the direction of the evaluator.

For *RCR 8.8.1*, candidates are expected to perform the pick-off element prior to the obstacle element of the requirement. The casualty shall be suspended a distance of at least 60 cm (2 ft) above the height of the *directional anchorage system* in the *deviation*.

For *RCR 8.8.2*, the casualty shall be placed in a realistic location, such as avoiding high interior angles or the lowest point of the *re-anchor*.

An evaluator may instruct a candidate to approach from and return to a specific side of a *re-anchor*.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Rope-to-rope transfer with two descenders.
- Rescue from a mid-transfer when the casualty's descent mode is away from the rescuer.
- Rescue from a mid-transfer when a casualty's ascent mode is away from the rescuer.
- Systems for establishing and releasing temporary *directional anchorage systems* or connections.

8.9. Hauling and Lowering Through Knots

Sub-Requirements:

- 8.9.1. Candidate shall demonstrate raising and lowering a casualty or load with knots located in both **backup** and **main ropes** located at a similar height while working from the ground, a platform, or while suspended from **anchorage systems**.
- 8.9.2. The casualty or load shall be suspended at least 2 m (6.6 ft) below knots that are at least 2 m (6.6 ft) below the **anchorage systems**.
- 8.9.3. Load shall be raised to the **anchorage systems** and returned to its initial location.
- 8.9.4. Candidate may access the **anchorage systems** via any means.
- 8.9.5. Connections shall not be made to the load or the **two-rope system** supporting the load until the candidate is located at the **anchorage systems**.
- 8.9.6. Knots will be located at a similar height.
- 8.9.7. Knots to be passed shall not be used as an attachment point.

Interpretation:

Candidates are expected to be able to haul and lower a load that is suspended by **fixed anchorage systems**.

Candidate may perform the skill from the ground, platform, or while in suspension.

Separation between the **anchorage systems**, the knots, and the load should require **rope grabs** to be used on the main rope on both sides of the knots.

A second backup device or a tied-off load-releasing hitch may be used to pass the knot on the **backup rope**. Alternatively, dual **main systems** may be used.

Candidates shall not be required to haul or lower knots past a **directional anchorage system**.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Hauling systems.
- Converting **fixed anchorage systems** to hauling systems.
- Using external haul systems.
- Operating systems while in suspension.

8.10. Tensioned Rope Systems

Sub-Requirements:

- 8.10.1. Candidate shall demonstrate transporting a load along a horizontal or angled tensioned rope system.
- 8.10.2. Candidate shall know how to estimate forces placed on the system.
- 8.10.3. Rigging considerations should include potential failure of the tensioned rope(s) in the system.

Interpretation:

Candidates are expected to demonstrate at least 4 m (13.2 ft) of lateral movement of an individual or load by using a horizontal or angled tensioned rope system.

Candidates are expected to complete this requirement individually, as a team, or as part of [RCR 8.7](#), at the direction of the evaluator.

Candidates are expected to maintain as little tension in a tensioned **rope system** as is practical to complete the requirement.

Candidates are expected to consider consequences of component failure within any part of the system.

Candidates are expected to establish tensioned **rope systems** above control ropes.

Candidates are expected to know where the highest forces are experienced by the **anchorage systems** of tensioned **rope systems** as a load is transported along a horizontal or angled tensioned **rope system**.

- The highest forces at the **anchorage systems** of horizontal tensioned **rope systems** are generally found when the load is at the middle of the horizontal span, as the control ropes are slack in that location.
- The highest forces at the **anchorage systems** of an angled tensioned **rope systems** are generally found as the load approaches, but remains above the lower **anchorage system**, as tensioned **rope systems** support a higher percentage of the load in comparison to the upper control ropes.

Training Considerations:

Preparations for a candidate to successfully complete this requirement should include:

- Equipment and anchorage considerations.
- Table 1 and 2 of *Safe Practices for Rope Access Work*.
- Considerations for estimating forces of tensioned **rope systems**.

9. Direct Entry Program

9.1. General information

- 9.1.1. The Direct Entry program is intended for individuals who have obtained rope access skills and experience outside of the SPRAT certification program.
- 9.1.2. With Evaluations Committee approval, individuals are eligible to be evaluated for an upper-level SPRAT certification without consecutive advancement through SPRAT's certification levels.

9.2. Level II Direct Entry Eligibility

- 9.2.1. Individuals with a minimum of 500 hours of experience using rope access techniques may apply for approval to evaluate as a Level II Direct Entry candidate.
- 9.2.2. A combined total of 100 hours of the experience may be from the following related industries:
 - 9.2.2.1. Rope descent systems (e.g., work using a boatswain's chair).
 - 9.2.2.2. Rope rescue training, instruction, and operations.

9.3. Level III Direct Entry Eligibility

- 9.3.1. Individuals who hold or have held a Level III certification in one of the following recognized rope access associations may apply for approval to evaluate as a Level III Direct Entry candidate:
 - 9.3.1.1. Australian Rope Access Association (ARAA)
 - 9.3.1.2. German Association for Rope Access (FISAT)
 - 9.3.1.3. Industrial Rope Access Trade Association (IRATA)
 - 9.3.1.4. IRATA Brasil Associação Comercial de Acesso por Cordas Industrial (IRATA Brasil)
 - 9.3.1.5. Norwegian Association for Rope Access (SOFT)
 - 9.3.1.6. Singapore Rope Access Association (SRAA)
- 9.3.2. The Evaluations Committee will consider other rope access certifications if the certification criteria are provided with the Level III Direct Entry application.

9.4. Application Process

- 9.4.1. Applications shall include:
 - 9.4.1.1. Evidence supporting eligibility for the desired level of certification.
 - 9.4.1.2. Experience documentation, in accordance with SPRAT's *Safe Practices for Rope Access Work*.
 - 9.4.1.3. Two professional references.
- 9.4.2. Completed Direct Entry applications and associated fees should be submitted to info@sprat.org no less than five weeks in advance of the scheduled rope access evaluation.
 - 9.4.2.1. Applications may be submitted by the individual, the Evaluation Session Host, or training provider.
- 9.4.3. Following review by the Evaluations Committee, notice of an application's approval or rejection is sent to the applicant, Evaluation Session Host, and/or evaluator.
 - 9.4.3.1. This notice, as well as experience documentation, shall be presented to the evaluator at the beginning of the rope access evaluation.
 - 9.4.3.2. Consideration for Direct Entry shall not be given to candidates without notice of approval from the SPRAT Office.
 - 9.4.3.2.1. Additional confirmation can be provided by the SPRAT Office upon request.
- 9.4.4. Approval to test as a Direct Entry candidate is valid for two attempts.
 - 9.4.4.1. If a candidate is unsuccessful following two attempts, a new application must be submitted including rope access evaluation details of the two failed attempts.

10. Site Requirements and Recommendations

10.1. General Information

- 10.1.1. All site requirements, including [site station requirements](#), and [site equipment requirements](#) shall be met for a rope access evaluation to proceed.
 - 10.1.1.1. Evaluation Session Hosts should consult SPRAT's [Evaluation Session Host Preparation Checklist](#).
 - 10.1.1.2. Site recommendations should be met to increase the efficiency of the rope access evaluation.
 - 10.1.1.3. If any requirement is not met, an evaluator has the right to refuse to conduct a rope access evaluation.
 - 10.1.1.3.1. The Evaluation Session Host shall provide proof of addressing any requirement deficiencies to the SPRAT Office prior to scheduling another rope access evaluation at that location.
- 10.1.2. The site shall be suitable to facilitate the rope access evaluation and administer the written test.
 - 10.1.2.1. Equipment used during a rope access evaluation shall meet the requirements of *Safe Practices for Rope Access Work* and the *presiding regulatory authority*.
 - 10.1.2.2. Completion of requirements shall not require major adjustments during the rope access evaluation.
 - 10.1.2.2.1. The site should have a floor area of at least 130 m² (1400 ft²).
 - 10.1.2.3. Unmarked SPRAT documentation shall be available during the rope access evaluation.
 - 10.1.2.4. Manufacturer instructions of equipment used during the rope access evaluation shall be available.
 - 10.1.2.5. A [poster](#) depicting the evaluation scheme in accordance with Section 5.1 should be provided.
 - 10.1.2.6. A white board or blank paper and implements shall be provided.
 - 10.1.2.7. The site shall facilitate suitable locations to observe candidates.
 - 10.1.2.7.1. Vertical separation shall not exceed 15 m (49 ft) between any location required for the completion of requirements and either the next lower level or the ground.

10.2. Site Safety Requirements

- 10.2.1. An *access work plan* in accordance with *Safe Practices for Rope Access Work* shall be provided.
- 10.2.2. The site *hazard* and *fall zones* shall be marked in accordance with *Safe Practices for Rope Access Work*.
- 10.2.3. Candidate emergency contact information shall be available.
- 10.2.4. Provision shall be made to ensure no conflicting activities are present during the rope access evaluation.
- 10.2.5. Provision shall be made to ensure prompt rescue.
- 10.2.6. A suitable first aid kit and fire extinguisher shall be readily available.
- 10.2.7. Emergency egress signage and lighting should be provided as appropriate.

10.3. Site Environment

- 10.3.1. The site shall have appropriate noise and lighting levels.
 - 10.3.1.1. Noise levels should be below 85dBA per eight-hour period.
 - 10.3.1.2. Lighting levels should be between 300 and 800 lux.
- 10.3.2. The site should be protected from adverse weather.
- 10.3.3. The site should have a regulated temperature between 7°C (45 °F) and 38°C (100 °F).
- 10.3.4. The site should have ventilation to facilitate a minimum of 8 air changes per hour.

10.4. Platform

- 10.4.1. The site shall have at least one platform at least 2.5 m (8.3 ft) above the next lower level.
 - 10.4.2. The platform should be accessible without the use of personal fall protection.
 - 10.4.3. At least one platform that accommodates at least four people shall be available.
 - 10.4.3.1. A platform or platforms that accommodate a total of at least eight people are recommended.
- 10.4.4. The platform should have provision for a *fall zone* extending a minimum of 3 m (9.9 ft) along one edge.

10.5. Anchorage Systems

- 10.5.1. The site shall accommodate **fixed anchorage systems** that allow for the uninterrupted ascent and descent of at least 5 m (16.5 ft) on a **two-rope system**.
- 10.5.2. **Anchorage systems** shall meet the requirements of *Safe Practices for Rope Access Work*.
 - 10.5.2.1. A documented inspection report prepared by a professional structural engineer appropriate to the **presiding regulatory authority** of the evaluation site is recommended.
- 10.5.3. **Anchorage systems** should be located to accommodate clearance requirements of fall protection systems.
 - 10.5.3.1. During the performance of certification requirements, no additional protection is required where the required clearance is lower than the available clearance.

11. Site Station Requirements and Recommendations

11.1. General

- 11.1.1. Stations are categorized for maneuvers and for operations.
 - 11.1.1.1. As stations may be used to complete multiple requirements, not all certification requirements directly correspond to a station.
- 11.1.2. Stations within each category shall be readily available, distinct, and able to be occupied simultaneously.
 - 11.1.2.1. Stations for maneuvers and operations may overlap.
- 11.1.3. One of each station shall be available per four candidates.
- 11.1.4. A minimum of four of each station is recommended.

11.2. Maneuvers

11.2.1. Edge Negotiation

- 11.2.1.1. An edge negotiation station consists of one **two-rope system** with rope and/or edge in accordance with requirements of [RCR 6.13](#).
- 11.2.1.2. A 90-degree edge should be available for demonstrating the maneuver.
- 11.2.1.3. Edge negotiations shall allow the candidate to safely transition to and from the **rope access system**, by moving out of a **fall zone**, or by using another suitable fall protection system.

11.2.2. Deviations

- 11.2.2.1. Deviations should be as close to 20 degrees as possible.
- 11.2.2.2. A separation of at least 0.5 m (1.7 ft) should exist between the **anchorage** and the **anchorage connector(s)** that the **two-rope system** passes through.
- 11.2.2.3. The height of the **directional anchorage system** should be sufficient so it cannot be reached from the ground (≥ 3 m).
- 11.2.2.4. The upper **anchorage systems** should be sufficiently higher from the **directional anchorage system** to allow candidates to continue ascending before performing a change-over.
- 11.2.2.5. Vertical separations of greater than 4.6 m (15 ft) between the **directional anchorage system** and the upper **anchorage systems** require multiple **directional anchorage systems**.

11.2.3. Rope-to-rope transfers

- 11.2.3.1. A rope-to-rope transfer station consists of one pair of **two-rope systems**, separated by more than 2 m (6.6 ft).
- 11.2.3.2. Rope-to-rope transfer stations shall be capable of generating more than a 30-degree angle from the **fall line** of each of the **anchorage systems** when at the midpoint of the maneuver.
- 11.2.3.3. The required interior angle to complete a rope-to-rope transfer should not exceed 120 degrees.

11.2.4. *Re-anchors*

11.2.4.1. *Re-anchors* should have a sag deeper than the greater of either half the horizontal span or 1 m (3.3 ft).

11.2.4.2. The bottom of the *re-anchor* should be ≥ 2 m (6.6 ft) above the next lower level.

11.2.4.3. Ropes reaching a lower level may be present on both or only one side of the *re-anchor*.

11.2.5. Horizontal aid climbing

11.2.5.1. The horizontal span of a horizontal aid climbing station shall be at least 3 m (9.8 ft).

11.2.5.2. Fixed *anchorage system* spacing should be between 30 cm (1 ft) and 1 m (3.2 ft).

11.2.5.3. If movable *anchorage systems* are used, three should be available for passing obstructions.

11.2.6. Vertical aid climbing

11.2.6.1. Vertical aid climbing stations are only required for upper-level candidates.

11.2.6.2. A vertical aid climbing station consists of a minimum of seven *anchorage systems* spaced no farther apart than 45 cm (1.5 ft) accommodate the requirements of [RCR 7.9](#).

11.2.6.3. Vertical *aid climbing* stations shall be no further than 30 degrees from the vertical.

11.2.7. Level 1 Rescue Exercise

11.2.7.1. A Level 1 Rescue Exercise station consists of one pair of adjacent *two-rope systems*, separated by no more than 1 m (3.3 ft).

11.3. Operations

11.3.1. Platform Hauling and Lowering

11.3.1.1. *Anchorage systems* shall be available to accommodate hauling and lowering operations from the ground or platform.

11.3.1.2. *Anchorage systems* should accommodate systems operated with overhead devices and with devices located near the ground or platform.

11.3.1.3. *Directional anchorage systems* should be available to ensure a suitable *fall line* during operations.

11.3.2. Suspended Hauling and Lowering

11.3.2.1. *Anchorage systems* shall be available to accommodate simultaneous suspension of a candidate and a load.

11.3.2.2. *Anchorage systems* shall be available to accommodate vertical and lateral movements of a load.

11.3.3. Tensioned Rope Systems

11.3.3.1. *Anchorage systems* shall be available to accommodate operations along both horizontal and angled tensioned rope systems in accordance with [REG 8.10](#).

11.3.3.2. *Directional anchorage systems* should be available to ensure suitable placement of tensioned and control ropes.

12. Site Equipment Requirements and Recommendations

12.1. Candidate Personal Equipment

12.1.1. Each candidate shall be equipped, at a minimum, with the following equipment:

12.1.1.1. Personal protective equipment required by the site *access work plan*.

12.1.1.2. Helmet.

12.1.1.3. Harness.

12.1.1.4. Chest *ascender*.

12.1.1.5. Hand *ascender* with lanyard and foot loop.

12.1.1.6. Two backup devices with compatible connecting equipment.

12.1.1.6.1. One backup device per candidate shall be suitable for performing pick-off rescues.

12.1.1.7. *Descender*.

12.1.1.8. Sufficient locking *carabiners* to accommodate personal equipment.

12.1.2. Personal equipment available in multiple sizes should be available to accommodate candidate needs.

12.1.2.1. A minimum of 16 helmets is recommended.

12.1.2.2. A minimum of 16 harnesses with affixed chest ascenders is recommended.

12.2. Shared Equipment

12.2.1. Four additional backup devices with compatible connecting equipment shall be available.

12.2.1.1. One additional backup device with compatible connecting equipment per candidate is recommended.

12.2.2. Four additional *descenders* shall be available.

12.2.2.1. One additional *descender* per candidate is recommended.

12.2.3. Sufficient hardware and/or other suitable equipment to accommodate requirements shall be available.

12.2.3.1. At least 40 carabiners should be available.

12.2.3.2. At least 16 rope grabs in addition to personal equipment should be available.

12.2.3.3. At least 16 pulleys should be available.

12.2.3.4. At least 4 rigging plates or rings should be available.

12.2.4. Ropes that accommodate the needs of the site to complete requirements shall be available.

12.2.4.1. A minimum of eight ropes with length of approximately 3 m (10 ft) should be available.

12.2.4.2. A minimum of eight ropes with length between 10 m (33 ft) and 30 m (99 ft) should be available.

12.2.4.3. A minimum of eight ropes with length of between 30 m (99 ft) and 60 m (196 ft) should be available.

12.2.5. Sufficient slings and/or other materials to accommodate requirements shall be available.

12.2.5.1. At least 16 slings should be available.

12.2.6. One mass of ≥ 30 kg (66.2 lbs) per four candidates shall be available.

12.2.6.1. A minimum of four masses of ≥ 30 kg (66.2 lbs) is recommended.

12.2.6.2. One mass of ≥ 60 kg (132.3 lbs) that simulates a casualty per four candidates is recommended.

12.2.6.3. One mass of ≥ 80 kg (177 lbs) is recommended.

12.2.6.4. Modular weights may be used to accommodate recommendations.

12.3. As appropriate to the evaluation site, the following additional shared equipment should be considered:

12.3.1. Work seats.

12.3.2. Energy absorbing lanyards or other fall protection systems.

12.3.3. Adjustable positioning lanyards.

13. Rope Access Evaluation Feedback

13.1. Evaluation Session Host and Candidate Feedback

13.1.1. Evaluation Session Host and Candidate Feedback is a confidential means to provide honest feedback and constructive criticism of their experience from the rope access evaluation.

13.1.2. This information contributes to assessing and improving the effectiveness of both the certification process and the evaluator administering the rope access evaluation.

13.2. Complaints and Appeals.

13.2.1. The process for submitting complaints and appeals is provided in Section 10 of *Rope Access Certification Requirements*.

13.2.2. Complaints and appeals must be submitted within 60 days of a rope access evaluation.

13.2.3. If a complaint is lodged against an evaluator, the SPRAT Office shall anonymize the complaint and supporting documentation, as appropriate, and provide the redacted information to the Evaluations Committee.

13.2.4. Complaints and appeals may only be addressed one time by the Evaluations Committee and/or Board of Directors.

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A.1.1. Introduction

A.1.1.1. The following information is provided to prepare candidates to successfully complete the Equipment Use and Inspection requirements ([RCR 6.2](#), [7.3](#), and [8.4](#)) of the rope access evaluation.

A.1.1.2. This information is intended to supplement Section 13 of *Safe Practices for Rope Access Work*.

A.1.1.3. This information should be used in conjunction with manufacturer specifications.

A.1.1.3.1. Manufacturer specifications shall be available to all parties during a rope access evaluation.

A.1.1.4. Inspection information, provided in Section [A.1.2](#), should be considered for equipment, as appropriate.

A.1.1.5. Each equipment type is divided into the following categories, as appropriate:

A.1.1.5.1. Applications

A.1.1.5.1.1. Potential uses of equipment for use in rope access and other fall protection systems.

A.1.1.5.1.2. Not all applications may be appropriate for a specific piece of equipment.

A.1.1.5.2. Features

A.1.1.5.2.1. Equipment properties that may or may not be present for a given equipment model.

A.1.1.5.2.2. Listed features may not be required for compliance with *Safe Practices for Rope Access Work*.

A.1.1.5.3. Selection

A.1.1.5.3.1. Equipment compliance

A.1.1.5.3.2. Refer to SPRAT's [Presiding Regulatory Authority Reference](#).

A.1.1.5.3.3. Refer to SPRAT's [Work at Height Standard Reference](#).

A.1.1.5.3.4. Considerations for use with other components and within a given work environment

A.1.1.5.4. Inspection

A.1.1.5.4.1. Considerations to ensure serviceability of equipment.

A.1.1.5.4.2. Inspection information in Section [A.1.2](#) should be applied, as appropriate, to each equipment type.

A.1.1.5.4.3. Equipment should be removed from service in accordance with *Safe Practices for Rope Access Work*.

A.1.1.5.5. Use

A.1.1.5.5.1. Considerations to ensure correct function of equipment while in use.

A.1.2. Equipment Inspection

A.1.2.1. General Inspection Information

<input type="checkbox"/>	Sizing and/or Capacity	Suitability of equipment for user and forces that may be applied during use.
<input type="checkbox"/>	Age of Equipment	Use within lifespan of equipment as provided by manufacturer
<input type="checkbox"/>	Appropriate Storage	Clean, dry, temperate area protected from UV exposure and other hazards
<input type="checkbox"/>	Integrity	Suspect history and/or characteristics that may affect equipment function

A.1.2.2. General Inspection for Potential Damage

<input type="checkbox"/>	Visual indicator(s)	Feature(s) to indicate potential damage and/or need to remove equipment from service
<input type="checkbox"/>	Missing, incorrect parts or tags	Absent components from manufacturing defect, modification, or damage
<input type="checkbox"/>	Illegible or missing markings	Worn or absent manufacturer information regarding use
<input type="checkbox"/>	Alteration	Indication of unauthorized modification to equipment

A.1.2.3. Inspection of Hardware

<input type="checkbox"/>	Burring	Rough edges caused during manufacturing or repeated loading
<input type="checkbox"/>	Cracks	Material separation from excessive loading and/or corrosion
<input type="checkbox"/>	Corrosion	Oxidation of material due to environmental exposure
<input type="checkbox"/>	Deformation	Bending, warping, or misalignment of components due to inappropriate loading or impact
<input type="checkbox"/>	Erosion or sharp edges	Loss of material due to frictional contact with environment, tools, or other equipment
<input type="checkbox"/>	Gouges	Dents or loss of material due to impact with environment, tools, or other equipment
<input type="checkbox"/>	Stress marks	Indications of excessive or inappropriate loading

A.1.2.4. Inspection of Textiles and Plastics

<input type="checkbox"/>	Abrasion	Material wear due to frictional contact with environment, tools, or equipment
<input type="checkbox"/>	Brittleness	Flaking or breaking of material due to aging, UV damage, or chemical exposure
<input type="checkbox"/>	Burns	Marks or holes due to exposure to excessive heat
<input type="checkbox"/>	Cuts	Separation of material due to contact with environment, tools, or equipment
<input type="checkbox"/>	Elongation	Stretch of material beyond manufacturer design due to excessive loading
<input type="checkbox"/>	Fading	Loss of coloring due to UV damage or chemical exposure
<input type="checkbox"/>	Fraying	Unraveling at material edges due to contact with environment, tools, or equipment
<input type="checkbox"/>	Glazing	Superficial melting due to frictional contact with environment, tools, or equipment
<input type="checkbox"/>	Mildew	Presence of mold due to extended exposure to moisture
<input type="checkbox"/>	Rigidity	Loss of pliability due to aging, UV damage, or chemical exposure
<input type="checkbox"/>	Soiling	Dirt or contamination from chemicals that may affect functionality
<input type="checkbox"/>	Stitching damage	Abrasion, cuts, tears, and/or shifting of structural stitching from environment, tools, equipment, or excessive loading

A.1.2.5. Inspection for Function

<input type="checkbox"/>	Moving parts and fasteners	Integrity of fasteners, ease of movement of springs, latches, levers, plates, etc.
<input type="checkbox"/>	Harness connection	Use of appropriate harness attachment for intended application of equipment
<input type="checkbox"/>	Component compatibility	Use of equipment suitable for intended application of system
<input type="checkbox"/>	Component orientation	Equipment configured for intended application of system
<input type="checkbox"/>	Function test	Test of component and system, protected by appropriate system(s) as necessary

A.1.3. Helmets

A.1.3.1. Applications

<input type="checkbox"/>	Overhead impact protection	<i>Is the helmet designed to protect against impacts from overhead hazards?</i>
<input type="checkbox"/>	Side impact protection	<i>Is the helmet designed to protect against impact to the side of the head (e.g., swing fall)?</i>

A.1.3.2. Features

<input type="checkbox"/>	Energy absorption	<i>What is used to dissipate energy from impact (e.g., suspension, foam)?</i>
<input type="checkbox"/>	Chinstrap	<i>Does the helmet have a chinstrap?</i>
<input type="checkbox"/>	Adjusters	<i>What adjustments are available for fitting the helmet to the individual?</i>
<input type="checkbox"/>	Headlamp attachment	<i>Are there mounts for a headlamp?</i>
<input type="checkbox"/>	Accessory attachment(s)	<i>Are there mounts for personal protective equipment (e.g., ear muffs, face shield)?</i>

A.1.3.3. Selection

<input type="checkbox"/>	Compliance	<i>Does helmet meet relevant standard, type, and class for intended use? Does helmet meet presiding regulatory authority requirements?</i>
<input type="checkbox"/>	Size	<i>Is helmet correct size for the individual?</i>
<input type="checkbox"/>	Environment	<i>Is helmet suitable for use in the work environment (e.g., electrical hazards)?</i>
<input type="checkbox"/>	Other equipment	<i>Is helmet suitable for use with other work equipment or personal protective equipment?</i>

A.1.3.4. Inspection

<input type="checkbox"/>	Wear or suspected damage	<i>Refer to Sections A.1.2 and manufacturer specifications.</i>
<input type="checkbox"/>	Function	<i>Refer to Section A.1.2.5 and manufacturer specifications.</i>

A.1.3.5. Use

<input type="checkbox"/>	Fit	<i>Is the helmet fitted to the individual when worn appropriately? Is the chinstrap adjusted appropriately?</i>
<input type="checkbox"/>	Ensure impact protection	<i>Is the impact protection area clear of objects that may affect the function of the helmet?</i>
<input type="checkbox"/>	Ease of inspection	<i>Are there excessive stickers and/or paint that affect the ability to inspect the helmet?</i>

A.1.4. Harnesses

A.1.4.1. Applications

<input type="checkbox"/>	Rope access	<i>Connection to main and backup systems.</i>
<input type="checkbox"/>	Other fall protection	<i>Use within travel restraint, positioning, and fall arrest systems.</i>

A.1.4.2. Features

<input type="checkbox"/>	Attachments	<input type="checkbox"/> <i>Sternal</i> <input type="checkbox"/> <i>Ventral</i> <input type="checkbox"/> <i>Lateral</i> <input type="checkbox"/> <i>Dorsal</i> <input type="checkbox"/> <i>Rear waist</i>
<input type="checkbox"/>	Adjusters	<i>What adjustments are available on the harness?</i>
<input type="checkbox"/>	Buckles	<i>Are their buckles to be secured on the harness?</i>
<input type="checkbox"/>	Leg risers	<i>Are the rear leg riser straps adjustable?</i>
<input type="checkbox"/>	Tear-away elements	<i>Are there tear-away elements for storing fall arrest equipment?</i>
<input type="checkbox"/>	Tool loops	<i>Are there tool loops on the harness?</i> <i>Is the strength of the tool loops known?</i>
<input type="checkbox"/>	Additional accessories	<i>Are there additional features for attaching equipment (e.g., tool bag straps)?</i>

A.1.4.3. Selection

<input type="checkbox"/>	Compliance	<i>Does harness meet relevant standard, type, and class for intended use?</i> <i>Does harness meet presiding regulatory authority requirements?</i>
<input type="checkbox"/>	Size	<i>Is harness correct size for the individual?</i>
<input type="checkbox"/>	Capacity	<i>Is harness suitable for user weight, including tools and other equipment?</i> <i>Is harness suitable for rescue?</i>
<input type="checkbox"/>	Correct attachments	<input type="checkbox"/> <i>Backup systems and fall arrest (e.g., sternal, dorsal)</i> <input type="checkbox"/> <i>Main systems and Positioning (e.g., laterals used in pairs, ventral)</i> <input type="checkbox"/> <i>Travel restraint (e.g., rear waist, others)</i>

A.1.4.4. Inspection

<input type="checkbox"/>	Wear or suspected damage	<i>Refer to Sections A.1.2 and manufacturer specifications.</i>
<input type="checkbox"/>	Function	<i>Refer to Section A.1.2.5 and manufacturer specifications.</i>

A.1.4.5. Use

<input type="checkbox"/>	Fit	<input type="checkbox"/> <i>Waist tight and centered</i> <input type="checkbox"/> <i>Leg loops and rear riser straps tight</i> <input type="checkbox"/> <i>Correct location of dorsal attachment (if present)</i> <input type="checkbox"/> <i>Chest tight</i>
<input type="checkbox"/>	Use correct attachments	<i>Is the attachment suitable for the application of the attached system?</i>
<input type="checkbox"/>	Stowing equipment	<i>How is equipment stowed when not in use to prevent a tripping hazard?</i>
<input type="checkbox"/>	Rescuer attachment(s)	<i>What attachments are used on the rescuer's harness when performing a rescue?</i>
<input type="checkbox"/>	Casualty attachment(s)	<i>What attachments are used on the casualty's harness when a rescue is performed?</i>

A.1.5. Backup Devices

A.1.5.1. Applications

<input type="checkbox"/>	Backup system	<i>Use within rope access systems with focus of limited free fall potential, < 0.6 m (2 ft).</i>
<input type="checkbox"/>	Fixed backup system	<i>Use within backup systems for operations moving rope access technician or load.</i>
<input type="checkbox"/>	Travel restraint system	<i>Use within systems to eliminate risk of falling to lower level when working near edge.</i>
<input type="checkbox"/>	Load limiting component	<i>Use within systems to assist minimizing forces in systems (e.g., tensioned rope systems).</i>

A.1.5.2. Features

<input type="checkbox"/>	Self-trailing travel	<i>Will backup device move automatically or does it require manual adjustment?</i>
<input type="checkbox"/>	One-way locking	<i>Can backup device movement be restricted to one direction?</i>
<input type="checkbox"/>	Mechanism(s) to grab rope	<i>How does the backup device arrest a fall?</i>
<input type="checkbox"/>	Incorrect installation prevention	<i>Is there a feature to hinder threading the backup device incorrectly?</i>

A.1.5.3. Selection

<input type="checkbox"/>	Compliance	<i>Does backup device meet relevant standard, type, and class for intended use? Does backup device meet presiding regulatory authority requirements?</i>
<input type="checkbox"/>	Capacity	<i>Is backup device suitable for user weight, including tools and other equipment? Is backup device suitable for rescue?</i>
<input type="checkbox"/>	Harness location	<i>Where is the backup device attached to harness? Can the backup device be used when directly attached to the harness?</i>
<input type="checkbox"/>	Lanyard type	<i>What type(s) of lanyards (e.g., energy absorber, dynamic rope, etc.) may be used?</i>
<input type="checkbox"/>	Lanyard length	<i>What length(s) of lanyard may be used?</i>
<input type="checkbox"/>	Rope construction	<i>What rope construction type(s) may be used?</i>
<input type="checkbox"/>	Rope diameter range	<i>What is the diameter range of rope that may be used?</i>

A.1.5.4. Inspection

<input type="checkbox"/>	Wear or suspected damage	<i>Refer to Sections A.1.2 and manufacturer specifications.</i>
<input type="checkbox"/>	Function	<i>Refer to Section A.1.2.5 and manufacturer specifications.</i>

A.1.5.5. Use

<input type="checkbox"/>	Installation considerations	<i>How is drop potential of the backup device reduced? How is rope threaded through the device?</i>
<input type="checkbox"/>	Adjustment on rope	<i>How should device be handled to minimize free fall potential?</i>
<input type="checkbox"/>	Clearance considerations	<i>What factors affect clearance requirements?</i>
<input type="checkbox"/>	Platform and overhead use	<i>What are considerations to ensure function when used in rope access operations?</i>
<input type="checkbox"/>	Rescue use	<i>Are there handling considerations when used in rescue (e.g., reduced free fall potential)?</i>
<input type="checkbox"/>	Potential misuse	<i>What are common ways to misuse device (e.g., potential to defeat safety features)?</i>

A.1.6. Descenders

A.1.6.1. Applications

<input type="checkbox"/>	Main system	<i>Use within rope access systems for descent, limited ascent, and positioning.</i>
<input type="checkbox"/>	Hauling/Lowering system	<i>Use within rope access operations and remote rescue systems, to move person or load.</i>
<input type="checkbox"/>	Travel restraint system	<i>Use within systems to eliminate risk of falling to lower level when working near edge.</i>
<input type="checkbox"/>	Load limiting component	<i>Use within systems to ensure acceptable forces in systems (e.g., tensioned rope systems).</i>

A.1.6.2. Features

<input type="checkbox"/>	Auto-stopping	<i>Is there a feature to stop descent if user lets go of descender and rope?</i>
<input type="checkbox"/>	Auto-locking	<i>Is there a feature to lock descender if user lets go of descender and rope?</i>
<input type="checkbox"/>	Manual override	<i>Is there a feature to hinder uncontrolled descent if descender operated beyond its limits?</i>
<input type="checkbox"/>	Incorrect orientation prevention	<i>Is there a feature to hinder threading the descender incorrectly?</i>
<input type="checkbox"/>	Incorrect orientation protection	<i>Is there a feature to hinder uncontrolled descent if descender is threaded incorrectly?</i>
<input type="checkbox"/>	Other features	<i>Are there features of device for specialized use (e.g., feature to defeat manual override)?</i>

A.1.6.3. Selection

<input type="checkbox"/>	Compliance	<i>Does descender meet relevant standard, type, and class for intended use? Does descender meet presiding regulatory authority requirements?</i>
<input type="checkbox"/>	Capacity	<i>Is descender suitable for user weight, including tools and other equipment? Is descender suitable for rescue?</i>
<input type="checkbox"/>	Harness location	<i>Where is the descender attached to harness?</i>
<input type="checkbox"/>	Rope construction	<i>What rope construction type(s) may be used?</i>
<input type="checkbox"/>	Rope diameter range	<i>What is the diameter range of rope that may be used?</i>

A.1.6.4. Inspection

<input type="checkbox"/>	Wear or suspected damage	<i>Refer to Sections A.1.2 and manufacturer specifications.</i>
<input type="checkbox"/>	Function	<i>Refer to Section A.1.2.5 and manufacturer specifications.</i>

A.1.6.5. Use

<input type="checkbox"/>	Installation considerations	<i>How is drop potential of the descender reduced? How is rope threaded through the descender?</i>
<input type="checkbox"/>	Adjustment on rope	<i>How should descender be handled when descending and ascending? How is descender locked off to for use when working hands-free?</i>
<input type="checkbox"/>	Platform and overhead use	<i>What are considerations to ensure function when used in rope access operations?</i>
<input type="checkbox"/>	Rescue use	<i>Are there handling considerations when used in rescue? (e.g., extra friction)</i>
<input type="checkbox"/>	Potential misuse	<i>What are common ways to misuse device? (e.g., potential to defeat safety features)</i>

A.1.7. Ascenders

A.1.7.1. Applications

<input type="checkbox"/>	Main system	<i>Use within rope access systems for ascent, limited descent, and positioning.</i>
<input type="checkbox"/>	Hauling system	<i>Use within rope access operations as rope grab.</i>

A.1.7.2. Features

<input type="checkbox"/>	Rope grab style	<i>How does ascender grab the rope (e.g., toothed cam)?</i>
<input type="checkbox"/>	Attachments	<i>What are attachment locations on ascender?</i>

A.1.7.3. Selection

<input type="checkbox"/>	Compliance	<i>Does ascender meet relevant standard, type, and class for intended use? Does ascender meet presiding regulatory authority requirements?</i>
<input type="checkbox"/>	Capacity	<i>Is ascender suitable for user weight, including tools and other equipment?</i>
<input type="checkbox"/>	Harness location	<i>Where is ascender attached to harness? If used, what type and length of lanyard is used to attach ascender to harness?</i>
<input type="checkbox"/>	Rope construction	<i>What rope construction type(s) may be used?</i>
<input type="checkbox"/>	Rope diameter range	<i>What is the diameter range of rope that may be used?</i>

A.1.7.4. Inspection

<input type="checkbox"/>	Wear or suspected damage	<i>Refer to Sections A.1.2 and manufacturer specifications.</i>
<input type="checkbox"/>	Function	<i>Refer to Section A.1.2.5 and manufacturer specifications.</i>

A.1.7.5. Use

<input type="checkbox"/>	Installation considerations	<i>How is drop potential of ascender reduced? How is rope threaded through ascender?</i>
<input type="checkbox"/>	Adjustment on rope	<i>How should ascender be handled when ascending and descending (e.g., in pairs)? How should ascender be used when used in positioning systems?</i>
<input type="checkbox"/>	Potential misuse	<i>What are common ways to misuse device? (e.g., use as backup device)</i>

A.1.8. Carabiners

A.1.8.1. Applications

<input type="checkbox"/>	System construction	<i>Use within rope access systems, operations, and rescue.</i>
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A.1.8.2. Features

<input type="checkbox"/>	Strength	<i>What is the manufacturer reported minimum breaking strength of the carabiner?</i>
<input type="checkbox"/>	Material	<i>What materials are used in construction of the carabiner (e.g., aluminum, steel)?</i>
<input type="checkbox"/>	Shape	<i>What is the shape of the carabiner (e.g., oval, D, etc.)?</i>
<input type="checkbox"/>	Auto-locking	<i>Does the carabiner gate lock automatically? If not, how is gate locked?</i>
<input type="checkbox"/>	Gate sleeve action(s)	<i>What steps are required to open the gate?</i>

A.1.8.3. Selection

<input type="checkbox"/>	Compliance	<i>Does carabiner meet relevant standard, type, and class for intended use? Does carabiner meet presiding regulatory authority requirements?</i>
<input type="checkbox"/>	Equipment connections	<i>Is shape of carabiner suitable for use with intended equipment?</i>
<input type="checkbox"/>	Anchorage connections	<i>Is carabiner suitable for use with intended anchorage connectors?</i>

A.1.8.4. Inspection

<input type="checkbox"/>	Wear or suspected damage	<i>Refer to Sections A.1.2 and manufacturer specifications.</i>
<input type="checkbox"/>	Function	<i>Refer to Section A.1.2.5 and manufacturer specifications.</i>

A.1.8.5. Use

<input type="checkbox"/>	Appropriate loading	<i>What loading configurations are appropriate for the carabiner (e.g., major axis)?</i>
<input type="checkbox"/>	Potential misuse	<i>What loading configurations are inappropriate for the carabiner?</i> <ul style="list-style-type: none"> <input type="checkbox"/> <i>Back-clipping</i> <input type="checkbox"/> <i>Cross-loading (minor axis)</i> <input type="checkbox"/> <i>Gate face loading</i> <input type="checkbox"/> <i>Loading in 3 or more directions</i> <input type="checkbox"/> <i>Nose hook</i> <input type="checkbox"/> <i>Open gate</i> <input type="checkbox"/> <i>Side loading (edge loading)</i> <input type="checkbox"/> <i>Torsional (twisting)</i> <input type="checkbox"/> <i>Transverse body loading (cantilever)</i>

A.1.9. Ropes

A.1.9.1. Applications

<input type="checkbox"/>	System construction	<i>Use within rope access systems, operations, and rescue.</i>
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A.1.9.2. Features

<input type="checkbox"/>	Strength	<i>What is the manufacturer reported minimum breaking strength of the rope?</i>
<input type="checkbox"/>	Construction	<i>What is the construction type of the rope (e.g., kernmantle)?</i>
<input type="checkbox"/>	Materials	<i>What materials are used in rope construction (e.g., nylon, polyester)?</i>
<input type="checkbox"/>	Diameter	<i>What is the manufacturer reported diameter of the rope?</i>
<input type="checkbox"/>	Elongation	<i>What stretch values are provided by the manufacturer?</i> <i>Rope category:</i> <input type="checkbox"/> <i>Static</i> <input type="checkbox"/> <i>Low stretch</i> <input type="checkbox"/> <i>Dynamic</i>
<input type="checkbox"/>	Terminations	<i>Are their sewn terminations on the rope?</i>

A.1.9.3. Selection

<input type="checkbox"/>	Compliance	<i>Does rope meet relevant standard, type, and class for intended use?</i> <i>Does rope meet presiding regulatory authority requirements?</i>
<input type="checkbox"/>	Working load	<i>Is overall rope system strength appropriate for application?</i> <i>Has strength reduction from aging and knots (~30-50%) been considered?</i>
<input type="checkbox"/>	Equipment suitability	<i>Is the rope construction and diameter suitable for use with intended equipment?</i>
<input type="checkbox"/>	Length	<i>Is the rope an appropriate length for the intended application?</i>
<input type="checkbox"/>	Environment	<i>Is the rope suitable for the work environment (e.g., hot or electrical work)?</i>

A.1.9.4. Inspection

<input type="checkbox"/>	Wear or suspected damage	<i>Refer to Sections A.1.2 and manufacturer specifications.</i>
<input type="checkbox"/>	Function	<i>Refer to Section A.1.2.5 and manufacturer specifications.</i>

A.1.9.5. Use

<input type="checkbox"/>	Knots	<i>Are knots identifiable and dressed?</i>
<input type="checkbox"/>	Equipment	<i>Is rope threaded through equipment correctly?</i>
<input type="checkbox"/>	Rope protection	<i>Is rope sufficiently protected from hazards of the work environment?</i> <i>Refer to Section 6.14.</i>

A.1.10. Slings

A.1.10.1. Applications

<input type="checkbox"/>	System construction	<i>Use within rope access systems, operations, and rescue.</i>
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A.1.10.2. Features

<input type="checkbox"/>	Strength	<i>What is the manufacturer reported minimum breaking strength of the sling?</i>
<input type="checkbox"/>	Materials	<i>What materials are used in sling construction (e.g., nylon, polyester)?</i>

A.1.10.3. Selection

<input type="checkbox"/>	Compliance	<i>Does sling meet relevant standard, type, and class for intended use? Does sling meet presiding regulatory authority requirements?</i>
<input type="checkbox"/>	Strength	<i>Is sling appropriate for application (e.g., use within directional anchorage system)? Has strength of sling configuration been considered (e.g., basket hitch, girth hitch)? Is sling material and configuration suitable for potential dynamic loads?</i>
<input type="checkbox"/>	Environment	<i>Is the sling suitable for the work environment (e.g., hot or electrical work)?</i>

A.1.10.4. Inspection

<input type="checkbox"/>	Wear or suspected damage	<i>Refer to Sections A.1.2 and manufacturer specifications.</i>
<input type="checkbox"/>	Function	<i>Refer to Section A.1.2.5 and manufacturer specifications.</i>

A.1.10.5. Use

<input type="checkbox"/>	Sling protection	<i>Is sling sufficiently protected from hazards of the work environment? Refer to Section 6.14.</i>
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A.1.11. Pulleys

A.1.11.1. Applications

<input type="checkbox"/>	Directional anchorage systems	<i>Use within rope systems to reduce friction at changes of direction.</i>
<input type="checkbox"/>	Hauling systems	<i>Use within mechanical advantage systems.</i>
<input type="checkbox"/>	Tensioned rope systems	<i>Use to connect person or load within tensioned rope systems.</i>

A.1.11.2. Features

<input type="checkbox"/>	Strength	<i>What is the maximum allowable loading of the pulley?</i>
<input type="checkbox"/>	Number of sheaves	<i>How many sheaves does the pulley have?</i>
<input type="checkbox"/>	Side plates	<i>Does the pulley have fixed or moving side plates? Can a moving side plate be opened without removing the pulley from a carabiner?</i>
<input type="checkbox"/>	Swivel	<i>Does the pulley incorporate a swivel?</i>

A.1.11.3. Selection

<input type="checkbox"/>	Compliance	<i>Does pulley meet relevant standard, type, and class for intended use? Does pulley meet presiding regulatory authority requirements?</i>
<input type="checkbox"/>	Connector type	<i>Is the connector appropriate for the pulley (e.g., oval carabiner with fixed tab pulley)?</i>
<input type="checkbox"/>	Rope type and diameter	<i>Is the pulley suitable for the size and construction of the rope being used?</i>
<input type="checkbox"/>	Sheave use	<i>Do all sheaves need to be used to ensure appropriate loading?</i>
<input type="checkbox"/>	Directional forces	<i>Have the angles and forces of the system been considered?</i>

A.1.11.4. Inspection

<input type="checkbox"/>	Wear or suspected damage	<i>Refer to Sections A.1.2 and manufacturer specifications.</i>
<input type="checkbox"/>	Function	<i>Refer to Section A.1.2.5 and manufacturer specifications.</i>

A.1.11.5. Use

<input type="checkbox"/>	Attachment	<i>Is the pulley secured appropriately to the connector?</i>
<input type="checkbox"/>	Fleet angle	<i>Does the rope pass through the pulley in the correct orientation?</i>