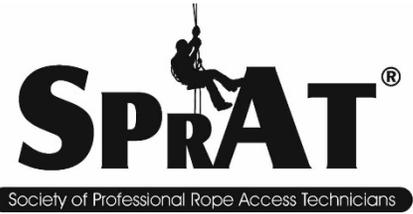


CERTIFICATION REQUIREMENTS FOR ROPE ACCESS WORK



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1. Purpose and Scope

1.1. Purpose

- 1.1.1. The intent of this document is to provide certification criteria for rope access technicians. This document is to be used in conjunction with SPRAT's *Safe Practices for Rope Access Work* document.

1.2. Scope

- 1.2.1. This document is intended for use by competent rope access technicians whose specific job requires knowledge and skill proficiency in rope access techniques.
- 1.2.2. The SPRAT certification process is intended to establish a minimum baseline of knowledge and skill that a successful candidate will possess. This document does not purport to address all criteria that may be applicable to all types of rope access work. **Employers** of rope access professionals must evaluate the job to be performed and provide for additional training as necessary. Additional evaluation should be taken as necessary by an **employer** to verify a rope access technician's suitability to a given job.
- 1.2.3. This document addresses minimum skills and certification requirements specific to rope access and does not address additional job specific skills (maintenance, construction, inspection).

2. Defined Terms

2.1. Classes of certification covered by this document include:

- 2.1.1. **Level I Technician (Rope Access Worker)**: A person who performs rope access work. A **Level I Technician** may only work under the direct, on-site supervision of a **Rope Access Lead Technician** or **Rope Access Supervisor**.
- 2.1.2. **Level II Technician (Rope Access Lead Technician)**: A person who is responsible for physically conducting rope access operations and/or safety evaluations of rope access operations, including maintenance of associated access equipment and performs all **Rope Access Lead Technician** duties as assigned in an **employer's** rope access program.
- 2.1.3. **Level III Technician (Rope Access Supervisor)**: A person who is responsible for the overall rope access work site and performs all **Rope Access Supervisor** duties as assigned in an **employer's** rope access program.

2.2. Other definitions used in this document are as follows:

- 2.2.1. **Access Permit** (aka **Job Hazard Analysis; JHA**): A written statement prepared by an **employer** describing how a particular job (or types of jobs where these will be essentially identical) should be undertaken to ensure any risks to health and safety of the rope access technicians, or others who may be affected, are minimized.
- 2.2.2. **Access zone**: The area in which people are at risk of falling such as **on-rope** or near a working edge. This area requires protective measures such as verbal warnings, signs, barriers, safety lines, or other devices designed to prevent or arrest a fall.
- 2.2.3. **Anchor, Anchorage**: A place, fixing or fixture that supports and to which the various ropes and rope systems are attached.
- 2.2.4. **Belay**: A system operated by a rope access technician for the purpose of arresting the fall of another person.
- 2.2.5. **Carabiner**: A type of connector, formed as a complete loop with a spring-loaded entry gate.
- 2.2.6. **Carabiner, Locking**: A **carabiner** with a mechanism that reduces the possibility of a gate being opened inadvertently. A locking mechanism requires at least two different consecutive manual actions to open the gate.

- 2.2.7. **Competent trainer:** A person who, based on training, education, knowledge, and most importantly experience in rope access, can safely and effectively deliver a quantifiable educational program to others.
- 2.2.8. **Descender:** A device that acts as a friction brake on a rope. It is normally attached to the operator and enables the operator to control the rate of descent.
- 2.2.9. **Discrepancy:** Grade issued for a non-critical safety issue performed by a candidate, while being evaluated, which demonstrates a lack of compliance with SPRAT standards or equipment manufacturer's specifications and/or creates a risk of minor injury or damage to equipment or property.
- 2.2.10. **Fail:** Grade issued for a critical safety issue performed by a candidate, while being evaluated, which demonstrates non-compliance with SPRAT standards or equipment manufacturer's specifications and/or creates a risk of serious injury or damage to equipment or property.
- 2.2.11. **Hazard zone:** Any area where a person may be at risk as a result of the work being performed.
- 2.2.12. **Independent Evaluator:** An Evaluator that has not trained the candidate nor is currently employed by the training company or the **employer** of the candidate.
- 2.2.13. **Main line:** The primary rope used for descending, ascending or positioning.
- 2.2.14. **On-rope:** The condition of being suspended from or attached to a rope.
- 2.2.15. **Proctor:** Individual who oversees students for test taking purposes. **Proctor** must be approved by SPRAT and submit a signed affidavit.
- 2.2.16. **Rescuer:** A person who is designated by an **employer** to perform rescue of rope access technicians as a member of the **rescue service**.
- 2.2.17. **Rescue service:** Organization determined by an **employer** to be capable of safe and effective rescue of rope access technicians.
- 2.2.18. **Retrieval:** Procedure for rescuing rope access technicians without placing a **rescuer on-rope**.
- 2.2.19. **Retrieval system:** The equipment (including a **retrieval** line, harness, lifting device, and **anchor**) used for rescue of rope access technicians without placing a **rescuer on-rope**. The **safety rope** may be used as the **retrieval** line in a **retrieval system**.
- 2.2.20. **Rope access:** Techniques by which access is gained to buildings, other structures (on or offshore), geological features (such as cliff faces), or manmade features (such as dams) by means of ropes. It applies to all cases where ropes are used:
 - 2.2.20.1. As the primary means of support.
 - 2.2.20.2. As means of primary protection or positioning
 - 2.2.20.3. Where people descend or ascend on a rope or traverse along horizontal rope.
- 2.2.21. **Rope grab:** A device used to grasp a rope for the purpose of supporting a load.
- 2.2.22. **SPRAT:** Society of Professional Rope Access Technicians
- 2.2.23. **Safe zone:** Any area outside the **hazard zone** or the **access zone**.
- 2.2.24. **Safety, Secondary, Belay or Backup rope:** Rope used to protect against falls if the user slips or the primary support, **anchor** or positioning mechanism fails.

** For additional definitions, consult *SAFE PRACTICES FOR ROPE ACCESS WORK*

3. General Certification Procedures of Rope Access Technicians

3.1. General Notes Regarding Evaluations

- 3.1.1. The SPRAT certification process is intended to establish a minimum baseline of knowledge and skill directly related to industrial rope access. The evaluation session does not test industry-specific skills. Additional evaluation may be required by an **employer** to verify the rope access technician's suitability to a specific job.
- 3.1.2. These certification requirements are intended to be a performance-based standard. Techniques are not specified as long as the required skills are performed safely and efficiently.
 - 3.1.2.1. Equipment is not specified but should be appropriate for the application, meet relevant standards where applicable, and be used consistent with the manufacturer's specifications.
 - 3.1.2.2. All candidates must maintain a two-rope system during the entire evaluation. A four-rope system may be required for some maneuvers.

3.2. Rope Access Technician Duties

3.2.1. Rope Access Technician Duties

3.2.1.1. Duties of a **Level I Technician**

- 3.2.1.1.1. Refer to "Duties and Responsibilities of the **Level I Technician (Rope Access Worker)**" in *Safe Practices for Rope Access Work*

3.2.1.2. Duties of a **Level II Technician**

- 3.2.1.2.1. Refer to "Duties and Responsibilities of the **Level II Technician (Rope Access Lead Technician)**" in *Safe Practices for Rope Access Work*.

3.2.1.3. Duties of a **Level III Technician**

- 3.2.1.3.1. Refer to "Duties and Responsibilities of the **Level III Technician (Rope Access Supervisor)**" in *Safe Practices for Rope Access Work*.

3.2.2. Rope Access Technician Certification Procedures

- 3.2.3. Evaluation Session Host shall submit a request to host an evaluation session to the SPRAT Office prior to hosting an evaluation session. An Evaluation Session Host information packet is available from the SPRAT Office or can be found under the Certification section of the SPRAT website at www.sprat.org.
- 3.2.4. The written test and field evaluation shall be representative of the skills and knowledge required by this standard and *Safe Practices for Rope Access Work* for the desired level of certification.
 - 3.2.4.1. The written test shall be administered consistent with the procedures maintained by the SPRAT Evaluations Committee, a board-appointed committee.
 - 3.2.4.2. An Evaluator shall conduct the field evaluation.
 - 3.2.4.2.1. An **Independent Evaluator** shall conduct the field evaluation for **Level II** and **Level III Technician** candidates.
- 3.2.5. The Evaluator shall be responsible for submission of all paperwork to the SPRAT Office for all candidates evaluated during the relevant evaluation session. All paperwork shall be submitted in a timely manner and in accordance with the appropriate Evaluator requirements.
- 3.2.6. Overall evaluation result is based on fulfillment of pre-evaluation requirements and successful completion of a written exam and field evaluation.

- 3.2.7. Upon receipt of all paperwork and successful skills demonstration and written exam results, SPRAT will issue the final certification to the candidate. An Evaluator shall issue a provisional result to the candidate immediately following the evaluation.

3.3. Grading System for Field Evaluations

3.3.1. Each skill is graded on P/F/D – Pass/**Fail/Discrepancy**

3.3.1.1. Pass (P) denotes satisfactory performance during the exercise

3.3.1.2. One **Fail** (F) constitutes failure of evaluation

3.3.1.3. Three **Discrepancies** (D) constitutes failure of evaluation

3.3.2. **Fail** (F) Examples: The following list is a non-exhaustive list of errors that constitute a **Fail** (F). One (1) **Fail** constitutes failure of evaluation.

3.3.2.1. Relying on one rope system when that system is your primary means of support

3.3.2.2. Ineffectively used back-up device (e.g. big loop; upside down)

3.3.2.3. Not capable of performing one or more of the tasks required

3.3.2.4. Unacceptably slow at completing one or more of the tasks required

3.3.2.5. Uncontrolled or dangerous descent or swing

3.3.2.6. **Descender** threaded incorrectly and used in that manner

3.3.2.7. No fall protection used when within 6 feet (1.8 meters) of an unprotected edge

3.3.2.8. Use of an inappropriate back-up device not designed to accept a shock-load (e.g. toothed **ascender** that does not slip when shock-loaded)

3.3.2.9. Unprofessional conduct

3.3.2.10. No helmet while working at height

3.3.3. **Discrepancy** (D) Examples: The following list is a non-exhaustive list of errors that constitute a **Discrepancy** (D). Three (3) Discrepancies constitutes failure of the evaluation.

3.3.3.1. Unlocked **carabiner** in safety system

3.3.3.2. Helmet unfastened

3.3.3.3. Task is not completed in timely manner

3.3.3.4. Not providing additional friction to descent control devices as required by manufacturer specifications in certain circumstances (e.g. rescue pick-offs with two-person loads)

3.3.3.5. Dropped equipment

4. Training and Pre-Certification Requirements

4.1. Prior to certification all candidates must meet the following requirements:

- 4.1.1. Minimum age of 18 years
- 4.1.2. Sign a liability release form and statement of physical and mental fitness to perform rope access work
- 4.1.3. Complete a SPRAT Certification application

4.2. Training Requirements

- 4.2.1. Training by a **competent trainer** is recommended prior to initial certification as a **Level I, Level II, or Level III Technician**. This training should be designed to prepare the candidate to demonstrate proficiency in the skills required at the desired level of certification.
- 4.2.2. Training by a **competent trainer** is recommended prior to re-certification at the current level of certification. This training should be designed to prepare the candidate to demonstrate proficiency in the skills required at the level of certification.

4.3. **Level I Technician** Pre-Certification Requirements

- 4.3.1. All general requirements outlined in section 3.
- 4.3.2. No experience requirement prior to training.

4.4. **Level II Technician** Pre-Certification Requirements

- 4.4.1. All general requirements outlined in section 3.
- 4.4.2. 500 hours and 6 months of documented industrial rope access experience as a **Level I Technician** or equivalent.

4.5. **Level III Technician** Pre-Certification Requirements

- 4.5.1. All general requirements outlined in section 3.
- 4.5.2. 500 hours and 6 months of documented industrial rope access experience as a **Level II Technician** or equivalent (1000 hours total).
- 4.5.3. The majority of the 500 hours experience should be directly related to the techniques and field environment that the candidate will be expected to supervise.
- 4.5.4. Current First Aid, CPR, and AED certifications

5. Maintaining Experience Logbooks

- 5.1. SPRAT logbooks will be issued to all new successful candidates by the SPRAT Office with the rope access technician's name, photo, and SPRAT certification number on the first inside page. Logbooks are not issued to rope access technicians renewing or upgrading their certification. New logbooks can be requested from the SPRAT office.
- 5.2. The logbooks shall be maintained by the rope access technician and signed by the Evaluator, **Rope Access Program Administrator, Rope Access Supervisor**, or client as applicable. The **Rope Access Supervisor** should add his SPRAT certification number in the signature field.
- 5.3. Under the heading *Details of Work Tasks*, the rope access technician should note the type of rope access skills used as well as the application (e.g. **aid climbing**/inspection or descent/ascent/painting)
- 5.4. *Hours worked* shall be the time actually spent carrying out rope access tasks including rigging, training, working **on-rope**, and on-site safety management.
- 5.5. Experience documentation can be presented in other formats provided the following information is presented:
 - 5.5.1. Date of Work
 - 5.5.2. The **employer** for which the work was done
 - 5.5.3. Details of rope access tasks and application
 - 5.5.4. Location and type of structure
 - 5.5.5. Hours worked
 - 5.5.6. Signature of **Rope Access Supervisor, employer**, or client verifying hours worked
- 5.6. It is recommended that rope access technicians and **employers** maintain electronic records of hours worked in the event the logbook is destroyed or misplaced.

6. Certification Validity, Re-certification, Certification Advancement and Certification Expiry

6.1. Certification Validity

- 6.1.1. Upon successful skills demonstration, written exam results, and receipt of all paperwork, SPRAT will issue the final certification to the applicant. The *Evaluator* shall issue a provisional result to the candidate immediately following the evaluation.
- 6.1.2. Certification is valid for three (3) years from the date of the evaluation session.

6.2. Re-certification

- 6.2.1. Rope access technicians should attend an evaluation session prior to the expiration of their current certification.
- 6.2.2. Re-certifications completed within 6 months prior to expiration of the current certification will be valid for three (3) years from the date of the previous certification expiration.

6.3. Certification Advancement

- 6.3.1. Rope access technicians with valid certification that have met the experience and time requirements at their current level of certification qualify to advance to the next level.
- 6.3.2. Upon successful skills demonstration, written exam results and receipt of all paperwork, SPRAT will issue a new certification. The new certification will be valid for three (3) years from the date of the evaluation session.

6.4. Certification Expiry

- 6.4.1. Upon expiration, SPRAT issued certifications become invalid. Rope access hours acquired without a valid certification will not be counted toward the minimum required hours for certification advancement.
- 6.4.2. Candidates with expired certifications wishing to re-certify or advance to the next level shall complete all skills required at the proposed level of certification.
 - 6.4.2.1. Candidates with expired *Level I Technician* certifications, with the proper experience (as required in 4.4), must advance to a *Level II Technician* certification prior to earning qualifications for advancement to a *Level III Technician* certification (Direct Entry to Level III from Level I is not permissible).
- 6.4.3. Upon successful skills demonstration, written exam results and receipt of all paperwork, SPRAT will issue a new certification. The new certification will be valid for three (3) years from the date of the evaluation.

7. Direct Entry Requirements for Level II and Level III Technician

7.1. The Direct Entry process is intended to allow rope access technicians who have obtained rope access skills and experience on an industrial two rope system, outside the SPRAT certification system, to be evaluated for SPRAT certification at a level commensurate with their skill and experience. Direct Entry certification is only available to individuals who have not previously held any SPRAT certification.

7.2. Direct Entry candidates shall submit the appropriate documentation (outlined in sections 7.3.1 - 7.3.2 and 7.4.1 - 7.4.4) to the Evaluations Committee for review and approval no less than six weeks in advance of the scheduled evaluation date. This may be accomplished through the Host or training provider.

7.3. Direct Entry to *Level II Technician*

7.3.1. *Level II Technician* candidates shall provide documentation of work experience employing a two-rope system of at least 500 hours (hours should be signed off by a *Rope Access Supervisor*, manager or client). Documentation of work experience should include details of the type of work, dates of work, number of hours on rope and the forms of access (e.g. descending, ascending, rope transfer, hauling, rigging, etc.).

7.3.2. Candidates shall provide a work at height resume that includes 2 professional references, *employers*, pertinent experience, position(s), responsibilities and previous training.

7.3.3. Candidates shall attend a SPRAT evaluation session and successfully complete;

7.3.3.1. a *Level II Technician* written test and

7.3.3.2. a *Level II Technician* field evaluation by an *Independent Evaluator* (DE Candidates will be evaluated on all skills required for a *Level I* and *Level II Technician*)

7.4. Direct Entry to *Level III Technician*

7.4.1. *Level III Technician* candidates shall provide documentation of work experience employing a two-rope system of at least 1000 hours (hours should be signed off by a *Rope Access Supervisor*, manager or client). Documentation of work experience should include details of the type of work, dates of work, number of hours on rope and the forms of access (e.g. descending, ascending, rope transfer, hauling, rigging, etc.).

7.4.2. Candidates shall provide a work at height resume that includes 2 professional references, *employers*, pertinent experience, position (including supervisory or foreman type roles), responsibilities, and previous training.

7.4.3. *Level III Technician* candidates shall provide a letter of recommendation from a supervisor, manager or client.

7.4.4. *Level III Technician* candidates shall provide a current First-aid and CPR/AED certification.

7.4.5. Candidates shall attend a SPRAT evaluation session and successfully complete:

7.4.5.1. A *Level III Technician* written test

7.4.5.2. A *Level III Technician* field evaluation by an *Independent Evaluator* (Direct Entry candidates will be evaluated on all skills required for a *Level II* and *Level III Technician*).

8. Level I Technician (Rope Access Worker) Requirements

8.1. Roles and Responsibilities

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

8.2. Equipment Use and Inspection

- 8.2.1. Candidate must be able to demonstrate understanding of proper use, inspection, and care of all equipment required for the technical skills. Candidate shall also understand the requirements of an *employer's* equipment management program as required by *Safe Practices for Rope Access Work*.

8.3. Job Safety

- 8.3.1. Candidate must be able to demonstrate an understanding of an *employer's* safety management program, relevant policies, work permits, work zones, and *job safety analysis* as required by *Safe Practices for Rope Access Work*. Candidate should also be aware of course site hazards and emergency procedures.

8.4. Knots:

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

8.5. Back-up Devices and Use of Two-Rope System:

- 8.5.1. Candidate shall demonstrate the use of an appropriate back-up device attached to a *safety rope* in accordance with industry best practice. Maintaining a sound connection to two independently anchored ropes at all times is expected. Some technical maneuvers require a connection to up to four ropes at a time. Candidate should pay particular attention to the following:
 - 8.5.1.1. Positioning the device to prevent excessive falls
 - 8.5.1.2. Connecting to it with an appropriate lanyard type and length
 - 8.5.1.3. Pairing the device to an appropriate rope type and diameter
 - 8.5.1.4. Paying attention to not incapacitating the device through improper handling
 - 8.5.1.5. Following all manufacturer specifications in the proper use of the device

8.6. Use of *Descenders* (descent control devices):

- 8.6.1. Candidate shall demonstrate the proper use of a *descender* attached to the main *working line*. A variety of systems will be accepted if used consistent with industry best practice and manufacturer's specifications. Some considerations include:
 - 8.6.1.1. Candidate must demonstrate controlled descent, stopping, and locking or tying off as appropriate.
 - 8.6.1.2. Failing to lock-off the device properly when candidate is stopped and not in control of the slack end of the rope will constitute a *discrepancy*.
 - 8.6.1.3. Operating or triggering a *descender* without proper control of the slack end of the rope will result in a *discrepancy* or *fail* depending on the severity of the error.

8.6.1.4. Use of an auto-stop **descender** is not required, however, candidate must know how to add a friction device to create a fail-to-stop mechanism without relying on the **safety rope**.

8.6.1.5. If the **descender** can be used to ascend, candidate will be asked to ascend at least 2 meters (6.6 feet) using the **descender**.

8.7. Use of **Ascenders**

8.7.1. Candidate shall demonstrate the proper use of an appropriate ascending system connected to the **main line**. A variety of systems will be accepted if used consistent with industry best practice and manufacturer's specifications. Some considerations include:

8.7.2. Candidate can climb 10m (33ft) efficiently and without physical duress.

8.7.3. Candidate can climb down 2m (6.6ft) using the **ascenders**.

8.7.4. The **ascenders** should be properly attached to the candidate to increase safety and prevent equipment from being inadvertently dropped.

8.7.5. Since most **ascenders** with teeth are not designed to withstand a dynamic one-person load, candidates should always use **ascenders** in such a way to eliminate a dynamic fall onto the **ascenders**.

8.7.6. A single **ascender** connection to the **working rope** is acceptable as long as the dynamic fall potential is limited to less than 30cm (1ft) or eliminated entirely.

8.8. Switching from Ascent to Descent (Change-over)

8.8.1. Candidate shall demonstrate switching from ascent to descent and descent to ascent. Candidate should pay attention to careful handling of equipment and proper loading of **carabiners** during the maneuver.

8.9. Use of work seat

8.9.1. The candidate shall demonstrate the safe use of a work seat while maintaining a solid connection to both the **working** and **safety ropes**.

8.10. Passing Knots

8.10.1. Candidate shall demonstrate ascending and descending past a knot tied into the middle of the rope that has been placed there temporarily to isolate a damaged section of rope. The damaged section of rope shall not be used as a connection point. Two back-up devices can be used; however, candidate must be aware of how to use an appropriate knot as a secondary back-up.

8.11. Rope-to-Rope Transfers

8.11.1. Candidate shall demonstrate transferring from one pair of ropes to another pair of ropes anchored more than 2m (6.6ft) apart. Some considerations include:

8.11.2. A proper connection to 4 ropes is expected to control the swing potential if one rope failed during the maneuver.

8.11.3. Two back-up devices can be used; however, candidate must be aware of how to use an appropriate knot as a secondary back-up.

8.11.4. Candidate may be required to approach the rope-to-rope transfer from above or below; however, it is recommended that the maneuver is started in descent mode.

8.12. Deviation (redirect)

8.12.1. Candidate shall demonstrate ascending and descending past an **anchor** that deviates the rope by no more than 20 degrees. Some considerations include:

8.12.1.1. A single **deviation anchor** point is acceptable if there is no safety consequence of its failure.

8.12.1.2. Trainer and candidate should be aware that many appropriate field **anchors** for deviations may not be appropriate for taking the load of a technician in the vertical plane and should not be relied upon as a point of connection.

8.12.1.3. Provision for returning to the **anchor** from above and facilitating a rescue or repeated use from below should be considered.

8.13. Short **Rebelay** (passing an intermediate **anchor**)

8.13.1. Candidate shall demonstrate ascending and descending past an intermediate **anchor** that is less than 2m (6.6ft) horizontally from the **anchors** above. Due to some field circumstances the **anchor** itself may not always be relied upon as a point of connection (e.g. rope threaded through a grating or hole). The intermediate **anchor** and the top **anchor** can be used to maintain two points of attachment.

8.14. Long **Rebelay**

8.14.1. Candidate shall demonstrate ascending and descending past an intermediate **anchor** that is greater than 2m (6.6ft) horizontally from the **anchors** above. Due to some field circumstances the **anchor** itself may not always be relied upon as a point of connection (e.g. rope threaded through a grating or hole). Candidate should use 4-point technique similar to that used in a rope-to-rope transfer and should take care not to pull the rope from below across potential hazards or obstacles during the maneuver.

8.15. Negotiate Edge

8.15.1. Candidate shall demonstrate safely negotiating an edge obstruction while on ascent and descent. This task should simulate field conditions experienced when negotiating the edge of a roof, cliff face, or parapet wall. Ideally, the **anchors** should be at least 2m (6.6ft) from an unprotected edge and be located on the horizontal surface or within 2m (6.6ft) above the horizontal surface. If the edge is protected by a railing, candidate may need to climb under the railing to demonstrate the edge negotiation. Proper edge protection, controlled movement, and avoidance of shock loads must be demonstrated.

8.16. Rope and Sling Protection

8.16.1. Candidate shall demonstrate awareness and proper use of rope and sling protection as required by the Evaluation Session Host site. The candidate will be asked to pass a rope protector installed on both the **working** and **safety lines**.

8.17. Simple Structural **Anchor**

8.17.1. Candidate shall demonstrate establishing a simple **anchor** for a two-rope system around a structural member (e.g. steel beam). Proper use of hardware, choice of sling material and appropriate sling protection will be considered.

8.18. General **Anchor** Inspection

8.18.1. Candidate must know how to inspect and verify the integrity of more complex **anchors** that may be built in the field by **Level II** and **Level III Technicians**.

8.19. Climbing with Shock-absorbing Lanyards

8.19.1. Candidate must be aware of the limited shock-absorbing qualities of most lanyards (cow's tails) used in rope access. Candidate can demonstrate climbing vertically and/or horizontally on a structure using a shock-absorbing Y-lanyard system. Special attention should be paid to the proper use and compatibility of connectors, awareness and management of fall clearance distances, and general use of the lanyard.

8.20. **Belaying** with Communication

- 8.20.1. Candidate will be asked to manage the **safety rope** of another person. Consistent communication between candidate and person is expected. The choice of **belay** device is not specified, however, the method should be accepted industry practice and/or consistent with the manufacturer's specifications. A self-braking device is not required as long as proper technique is demonstrated.

8.21. Lowering

- 8.21.1. Candidate shall demonstrate lowering another person from a fixed **anchor** using an appropriate descent control device attached to a fixed **anchor**. Candidate may be asked to stop and lock-off the device. Additional friction may be required and should be consistent with the manufacturer's specifications.

8.22. Pick-off Casualty on Descent

- 8.22.1. Candidate will be asked to perform a pick-off rescue of a casualty while in descent mode. A separate set of ropes is not required, however, candidate should understand when a separate set of ropes might be needed and how to perform the rescue. Conversely, a candidate demonstrating a pick-off from a separate set of ropes should understand when it might be appropriate to use the casualty's ropes and how to perform the rescue. Emphasis will be placed on maintaining two points of attachment to the casualty and the ropes. Consideration should be given to the effects of a two-person load on the **descender** and back-up device. Extra friction may be required for a two-person load. Candidate shall perform an initial scene safety survey before carrying out any rescues. Proper casualty management should be considered and demonstrated.

8.23. Awareness of Simple Mechanical Advantage Systems

- 8.23.1. Candidate should be aware of simple mechanical advantage systems in order to participate in building or operating systems for utility or rescue hauling under the direction of a **Level II** or **Level III Technician**.

9. Level II Technician (Rope Access Lead Technician) Requirements

- 9.1. Candidate must provide proof of at least 500 hours of work experience as a *Level I Technician* or equivalent.
- 9.2. Candidate may be asked to demonstrate proficiency in the skills and knowledge required of a *Level I Technician* in addition to those specified below.
- 9.3. Roles and Responsibilities
 - 9.3.1. Candidate must 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.
- 9.4. Equipment Use and Inspection
 - 9.4.1. Candidate must be able demonstrate understanding of proper use, inspection, and care of all equipment required for the technical skills of a *Level II Technician*. The candidate should also understand an *employer's* equipment management program as required by *Safe Practices for Rope Access Work*.
- 9.5. Job Safety
 - 9.5.1. Candidate must be able to demonstrate an understanding of an *employer's* safety management program, relevant policies, work permits, work zones, and *job safety analysis* as required by *Safe Practices for Rope Access Work*.
- 9.6. Rigging and System Dynamics
 - 9.6.1. Candidate should have an understanding of forces involved in rigging rope access systems including concepts such as angle physics, *fall factors*, and dynamic loading.
- 9.7. Rescue Considerations
 - 9.7.1. Candidate should have a working knowledge of rescue procedures and considerations including harness-induced suspension trauma.
- 9.8. Knots and Hitches: In addition to the knots required of a *Level I Technician*, the candidate may be asked to demonstrate the proper tying and dressing of:
 - 9.8.1. Friction hitch (e.g. Prusik, Auto-block)
- 9.9. *Load Sharing Anchors* (Y-*anchor*)
 - 9.9.1. Some considerations for establishing *load sharing anchors* should include: redundancy, *anchor* location, bridle angle, connector loading, sling choice, and edge protection. Candidate may be asked to demonstrate establishing a load-sharing 2-point *anchor* for a two rope system in the following situations:
 - 9.9.1.1. *Anchor*-points less than 1 meter (3.3 feet) apart horizontally (e.g. bolt *anchors* in concrete or rock)
 - 9.9.1.2. *Anchor*-points greater than 2 meters (6.6 feet) apart horizontally (perpendicular to the plane of the rope)
 - 9.9.1.3. *Anchor*-points greater than 2 meters (6.6 feet) apart vertically (parallel to the plane of the rope)
- 9.10. Pull-through *Anchors*
 - 9.10.1. Candidate shall demonstrate a method to retrieve ropes from a structural *anchor* after descent. Considerations include connector loading, edge protection, and rope abrasion. Extreme caution must be taken to avoid descending on pull rope.

9.11. *Aid Climbing*

9.11.1. Candidate *shall* demonstrate *aid climbing* while maintaining two independent *anchor* attachment points. Candidate may be asked to demonstrate point-to-point and/or sliding *aid climbing* horizontally or along an incline. Candidate should be aware of how to apply this technique vertically, but will not be asked to demonstrate it.

9.11.1.1. Point-to-point: Candidate traverses a series of *anchor* points.

9.11.1.2. Sliding: Candidate slides *anchor* slings to progress.

9.12. Pick-off Casualty on Ascent

9.12.1. Candidate shall perform an initial scene safety survey before carrying out any rescues. Candidate will be asked to perform a pick-off rescue of a casualty that is in ascent mode. A separate set of ropes is not required, however, candidate should understand when a separate set of ropes might be needed and how to perform the rescue. Conversely, a candidate demonstrating a pick-off from a separate set of ropes should understand when it might be appropriate to use the casualty's ropes and how to perform the rescue. Emphasis will be placed on maintaining two points of attachment to the casualty and the ropes. Consideration should be given to the effects of a two-person load on the *descender* and back-up device. Extra friction may be required for a two-person load. Casualty management should be considered.

9.13. Rescue Hauling with Mechanical Advantage Systems

9.13.1. Candidate shall demonstrate raising a casualty or load using a mechanical advantage system. The casualty should be connected to two ropes as if in descent or ascent with both ropes relatively taught. Candidate may use the Evaluation Session Host's standard rescue kit and additional rope. Candidate is encouraged to build their own system to the requirements of the scenario. If candidate uses a pre-rigged system, candidate may be asked to disassemble and reassemble the kit. Candidate shall maintain a two-rope system. Safety and efficiency will be considered most important. Candidate may be asked to perform the following scenarios:

9.13.1.1. Platform: Haul *anchors* are located on platform where edge protection may be required. Candidate will not be required to negotiate the edge with the casualty.

9.13.1.2. Pitch Head: Haul *anchors* are established at the top of the pitch where candidate must assemble the system while suspended from the *anchors*.

9.13.1.3. Cross-Hauling: Two hauling systems are used in concert to move the load vertically and horizontally.

10. Level III Technician (Rope Access Supervisor) Requirements

- 10.1. Candidate must provide proof of at least 500 hours of work experience as a *Level II Technician* or equivalent (1000 hours total).
- 10.2. Candidate may be asked to demonstrate proficiency in the skills and knowledge required of a *Level II Technician* in addition to those specified below.
- 10.3. Roles and Responsibilities
 - 10.3.1. Candidate must 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*.
- 10.4. Management and Communication
 - 10.4.1. Candidate must demonstrate an ability to manage the safety of other rope access technicians and the public. Candidate must also 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). Candidate should also be familiar with using communication methods available in various field environments.
- 10.5. Equipment Use and Inspection
 - 10.5.1. Candidate must be able to demonstrate a thorough understanding of proper use, inspection, and care of all equipment required on a rope access work site. Candidate should be able to manage and carry out an *employer's* equipment management program as required by *Safe Practices for Rope Access Work*.
- 10.6. Job Safety
 - 10.6.1. Candidate must be able to carry out an *employer's* safety management program including writing a *job safety analysis*.
- 10.7. Rigging and System Dynamics
 - 10.7.1. Candidate must have an understanding of forces involved in rigging rope access systems including concepts such as angle physics, *fall factors*, and dynamic loading.
- 10.8. Rescue Considerations
 - 10.8.1. Candidate must demonstrate strong command of rescue procedures and concepts including harness-induced suspension trauma. Candidates will be required to manage team rescue scenarios.
- 10.9. Knots and Hitches: In addition to the knots required of a *Level II Technician*, candidate may be asked to demonstrate the proper tying and dressing of:
 - 10.9.1. Load-releasing hitch (e.g. Munter Mule, Mariners)
- 10.10. *Anchors* Pre-rigged to Lower
 - 10.10.1. Candidate shall demonstrate rigging *anchors* pre-rigged to lower in case of emergency.
- 10.11. Mechanical *Anchor* Systems
 - 10.11.1. Candidate must demonstrate an understanding of the use and limitations of mechanical *anchor* systems such as tripods and beam clamps.
- 10.12. Team Leadership and Supervision
 - 10.12.1. Candidate will be given a rescue or work task to complete with the assistance of one or more fellow candidates. Candidate will be evaluated on their ability to effectively communicate, delegate, and safely manage the completion of the task.

10.13. Pick-off Rescue of Casualty while Negotiating Obstacles

10.13.1. Candidate shall be asked to perform a pick-off rescue of a casualty and then descend with this casualty while negotiating at least one of the following obstacles:

10.13.1.1. Knots in both *safety* and *main lines*

10.13.1.2. *Deviation* (redirect *anchor*)

10.13.1.3. *Rebelay* (long or short)

10.13.1.4. Rope-to-Rope Transfer

10.14. Rescue from Aid Traverse

10.14.1. Candidate shall demonstrate rescuing a casualty from a horizontal aid traverse to a designated location below one side of the aid traverse. Cross-hauling or a guideline may be needed to transport casualty to a designated side of the aid traverse.

10.15. Guidelines and Highlines

10.15.1. Candidate shall demonstrate transporting a load along an angled guideline or a horizontal highline. Candidate shall know how to estimate the load placed on the system. While single rope techniques may be appropriate for some emergency rescue scenarios, redundant two-rope systems shall always be used in rescue training.

11. Complaints and Appeals

11.1. In the case of a complaint or dispute, the aggrieved party should submit a written statement to the SPRAT Office detailing the circumstances of the complaint and requested action. The SPRAT Office shall forward all complaints and appeals to the Evaluations Committee and the Board of Directors.

11.2. Complaints and appeals will be considered and ruled on by the Evaluations Committee. A written response shall be provided to the aggrieved party and copied to the Board of Directors within sixty (60) days of the written complaint. Any candidate affected by the decisions of the Evaluations Committee may choose to appeal to the Board of Directors.

11.3. The Board of Directors can choose to reconsider any action taken by the Evaluations Committee if the Board of Directors deems the action inconsistent with established certification requirements or finds the action inconsistent with the best interests of the membership.