Evaluation Guidelines

Contents

1. Purpose

The primary goal of SPRAT's evaluation process is to ensure a high standard of safety and proficiency in the Rope Access Industry by establishing and making accountable a set of skills and knowledge that are consistent and relevant to the myriad applications of rope access. The intent of this document is to provide current and prospective candidates, trainers, hosts and evaluators with the information and resources requisite in conducting impartial, consistent and efficient evaluations.

2. Scope

This document serves as an interpretation of the SPRAT Certification Requirements for Rope Access Work that provides certification criteria for rope access personnel. The document provides:

- The responsibilities to all involved parties
- Evaluation Day Chronology
- General Site Requirements for an Evaluation
- Candidate Pre-qualifications and Expectations for Documenting Experience
- Definitions of the Terms Discrepancy and Failure as used in the grading of evaluations.
- An explanation of the evaluator's role in determining discrepancies and failures as well as time limits
- Criteria for Evaluation of Equipment Use & Inspection for all SPRAT Levels.
- Criteria for Evaluation of Job Safety for all SPRAT Levels.
- A replication of the SPRAT Technician Evaluation Form used during evaluations for navigating the document.
- Criteria for Evaluation of the Requirements set forth in the Certifications Requirements for each SPRAT Level (I/II/III).

All stand-alone referenced numbers in this document refer to the Certification Requirements Standard. When reference is made to the Safe Practices for Rope Access Work, those numbers are italicized and preceded with the letters SP.

Please note, this document is designed as a supplement to the SPRAT Standards documents. This document does NOT replace the Safe Practices or Certification Requirements Standards.

3. Defined Responsibilities of Involved Parties

3.1. SPRAT Office Responsibilities

- Accepting, reviewing and filing all submitted Certification Host Applications
- Assisting Hosts with general certification program related enquiries.
- Submitting all direct entry applications to the Evaluations Committee for consideration, and providing Host with documentation of approval/rejection of all direct entry applications.
- Verifying that all required materials have been submitted by the Evaluator/Host in a proper and complete manner.
- Managing payment of certification processing and direct entry application fees
- Compiling and storing all evaluation session information
- Processing paperwork for all successful candidates, including the creation and mailing of the Certification Card, certificate, and logbook (with embossed picture) directly to the technician.
- Compiling and managing database of all certified technicians, and providing verification of certified technicians upon request.

3.2. Evaluation Session Host Responsibilities

- Submitting a completed Host Contract (link) to the SPRAT Office prior to any evaluation for each calendar year.
- Providing adequate liability insurance in accordance with SPRAT's approved Evaluation Session Insurance Policy.
- Maintaining valid proof of insurance on file with the SPRAT Office.
- Informing the SPRAT Office of any upcoming evaluation sessions.
- Scheduling a SPRAT Certified Evaluator to conduct the evaluation session.
- Submitting completed direct entry applications to the SPRAT Office for consideration by the Evaluations Committee at least six (6) weeks ahead of the session (if applicable).
- Ensuring candidates have met prerequisites for their desired levels of certification (Sections 5-7 of Certification Requirements Standard).
- Providing a facility conducive to the successful administration of the written and field evaluations.
- Providing appropriate safety precautions to minimize risk of injury.
- Providing all necessary equipment for the certification session. If necessary for site safety, this includes a properly equipped harness for the Evaluator of Record.
- Ensuring proper first aid and emergency care and provision for prompt rescue is available.
- Filling out the Host Application portion of the Evaluation Record
- Providing payment of all certification fees in an efficient and timely manner.
    - $100 for each candidate.

3.3. Evaluator Responsibilities

- Administering the Certification Program
- Informing the SPRAT Office of upcoming sessions
- Ensuring that the Host has met prerequisites by submitting required documentation to the SPRAT Office ahead of the scheduled session, including host contract, certificate of insurance and applicable direct entry applications.
- Conducting the evaluation of each Candidate in a fair, impartial manner.
- Remaining independent of all Level II and Level III Candidates, and those candidates' employer and/or training provider
- Maintaining control of all activities during the evaluation process.
- Completing a site safety checklist to ensure adequate safety precautions are in place to minimize all risk of injury or illness.
- Ensuring each Candidate has complied with all requirements of the Certification Program, including, but not limited to:
  - Documentation of rope access experience.
  - Completion of the Field Evaluation Form and the Waiver of Liability and Certification of Physical Condition (English/Spanish/French)
  - Presentation of valid government issued identification with photo.
  - Current First-aid and CPR/AED certification (Level III only)
  - Verifying approval of direct entry applications provided by host with the SPRAT Office (if applicable).
- Administering and Grading, or designating a proctor to administer and grade each written test.
- Ensuring all required documentation has been completed, compiled, and a copy of the Evaluation Form is delivered to Host.
- Issuing copies of Technician Evaluation Forms to Candidates and Hosts. These copies serve as provisional certifications for successful candidates.
- Providing an electronic photo of each candidate to the SPRAT Office following the session. Photos should be ID style, taken from the shoulders up. The Host may be asked to take these photos.
- Returning all documents to the SPRAT office within 15 business days.

3.4. Candidate Responsibilities

- Conducting self in a professional and courteous manner towards their Host, Evaluator, and fellow Candidates.
- Presenting a government issued identification with photo
- Presenting up to date logbook following criteria described in **Pre-certification Requirements and Documenting Experience**
- Form and Waiver of Liability and Certification of Physical Condition. All documentation must be clean and legible for certifications to be processed.
- Passing the written evaluation by answering at least 80% of the questions correctly.
- Performing each task safely and efficiently during the field portion of the evaluation.

4. Evaluation Day Chronology

After a Host submits a host application form (online/pdf), the host shall schedule a SPRAT Certified Evaluator. A list of current evaluators can be located on the SPRAT Website.

While subject to minor variances, the following chronology is representative of a typical evaluation day:

1. Evaluator completes SPRAT's site safety checklist.
2. Evaluator introduces candidates to the SPRAT evaluation process.
3. Candidates fill out technician evaluation form and waiver of liability and certification of physical ability.
4. Evaluator reviews pre-certification requirements with upgrade and recertification candidates.
5. Candidates are administered written test by evaluator or proctor.
6. Written test is graded by evaluator or proctor.
7. Evaluator (or Host) takes digital photographs of all candidates. Refer to Section 6.3.3 of the Evaluator Guidelines on taking digital photographs of candidates.
8. Evaluator introduces field portion of evaluation.
9. Evaluator administers field oral evaluation about site safety and equipment.
10. Evaluator administers field skills evaluation.
11. Evaluator compiles results to review individually with each candidate and provides passing candidates with provisional certifications.
12. Host and candidates fill out evaluator feedback form, and place forms in a sealed envelope for submission to the SPRAT Office.
13. Evaluator compiles all completed materials for mailing to the SPRAT Office. If the Host will be mailing the materials, it remains the responsibility of the Evaluator to ensure all documentation arrives to the SPRAT Office. The SPRAT Office will not follow up with Hosts directly regarding missing documentation.

NOTE:

The SPRAT Office will not begin processing of certification paperwork until all required documentation is received, and payment of all certification fees has been processed.

5. SPRAT Evaluation Facility and Equipment Requirements

The following guideline is provided to give SPRAT Evaluation Hosts the **minimum** requirements for hosting a SPRAT Evaluation.

Site Requirements

- Classroom or suitable location to administer the written test
- White board or blank paper and implements to assist in the drawing up of work plans or scenarios
- Suitable anchors, each consisting of main and safety lines, between 15 and 50 feet from the ground.
- Visibility of candidates is paramount.
- Facility shall be pre-rigged prior to the beginning of the evaluation.
- For up to four candidates, dedicated rope sets, each consisting of a main and safety line, for one each of the following:
  - Long rebelay
  - Deviation
  - Short rebelay
- For more than four candidates, it is recommended to have two each of the previous sets, with a rope set that reaches the ground per candidate. The dedicated rope sets may be included in this setup.
- A platform at a minimum of 8ft (~2.5m) above grade that safely accommodates up to 4 people including an evaluator with suitable anchoring to demonstrate negotiating an edge as well as lowering and hauling operations.
- A tower, ladder, structure or horizontal life-line system to demonstrate Shock Absorbing Lanyard use.
- Horizontal Aid Station(s) - (Level II and Level III)

Safety Requirements

- Rope Access Work Plan (*SP3.3*) and Job Safety Analysis (*SP3.*4) for evaluation site
- Hazard zone demarcated
- PPE as required by Rope Access Work Plan for affected individuals within hazard zone
- First Aid kit
- Provision for prompt rescue (e.g., rescue kit, ladders, movable scaffolding, rescue personnel)

Personal Equipment (per Candidate)

- Helmet
- Harness
- Chest ascender
- Hand ascender with lanyard and footloop
- 2x backup devices (one suitable for a 2-person load) if all candidates will be utilizing 2 backup devices to complete maneuvers
- Descender
- Additional PPE as required by site JSA

Group Equipment (Adequate for number of candidates/levels)

- At least 1 work seat
- At least one shock-absorbing 2-leg lanyard
- Pulleys
- Carabiners
- Rope Grabs (mechanical and soft goods)
- Rigging Hardware (quick links, delta links, slings, etc.)
- 10m (30ft) Rope lengths for tying knots and anchors
- Additional 30-60m (100-200ft) rope sets (30-60m) for transporting loads for Level II and Level III candidates
- 1 or more weights of ≥35kg (~77lbs) for transport exercises

Additional Considerations:

- Emergency services phone numbers are on site
- A roster of candidates with emergency contact information is on site
- The candidates have received a site safety briefing
- Any lock out/tag out procedures are in place
- Insurance coverage is in place
- Noise and lighting levels are acceptable
- There are no conflicting activities in the area
- Hazard zones are marked
- Anchor points and rigging are safe, well located and checked
- Equipment is sufficient and in good condition
- Stations are sufficient for the levels being evaluated
- The evaluation area is organized
- There are suitable places to view the candidates during their skills

In addition to these general guidelines, the evaluation criteria interpretations found later in this document provide site requirements specific to each CR requirement. The provided site requirements should be interpreted as a **minimum** for a successful evaluation. If they are not met, an evaluator has the right to refuse to evaluate a session. If an evaluator finds the site lacking, he/she will write a summary of the deficiencies to the SPRAT office. The host must provide proof of addressing these deficiencies to the SPRAT office prior to the scheduling of another evaluation session.

Providing more equipment and available rope sets can increase the efficiency of an evaluation.

6. Pre-certification Requirements and Documenting Experience

While candidates complete the technician evaluation form, which is replicated later in this document, and the liability waiver and certification of physical ability(English/Spanish/French), the evaluator will verify the experience and pre-certification requirements for each candidate's desired level. Candidates shall present their government issued identification or they will not be evaluated. Candidates wishing to upgrade shall have their experience documentation ready prior to the start of the evaluation session. **Candidates with incomplete documentation or without sufficient time or hours at their current certification level will not be evaluated. In addition, Level III candidates without valid First Aid, CPR and AED certifications will not be evaluated.**

Requirement:
4.6.3 Certification Expiry
Sub-Requirements:
4.6.3.1 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.

All hours for upgrade candidates, whether or not their certifications are currently valid, must be obtained while the candidate held a valid SPRAT certification.

The candidate's desired level of certification may not be changed once the evaluation has begun.

6.1. Logbook Expectations

Requirement:
4.4 Maintaining Experience Logbooks
Sub-Requirements:
4.4.1. SPRAT logbooks will be issued to all new successful certification candidates by the SPRAT office with the technician's name, photo, and technician number on the first inside page. Logbooks are not issued to candidates renewing or upgrading their certification. New logbooks can be requested from the SPRAT office. 4.4.2. The logbooks shall be maintained by the technician and signed by the Evaluator, Level III Supervisor, Rope Access Program Manager or client as applicable. The Level III Supervisor should add his SPRAT technician number in the signature field. 4.4.3. Under the heading *Details of Work Tasks* the technician should note the type of rope access skills used as well as the application (e.g. aid climbing/inspection or descent/ascent/painting)

It is recommended that candidates provide experience documentation in a suitable logbook. No individual line item of experience shall exceed 100 hours or two weeks. Recertification candidates shall present up-to-date experience documentation. Hours are time actually spent doing rope access work (e.g., hours working at fall arrest not associated with rope access work are not to be included in the logbook). While there are sometimes limitations in the field, whenever possible, a Level III should avoid self-certifying his or her own hours. It is preferred for a Level III to obtain a signature from their rope access program manager or client. Logbooks should be filled out for a technician to be able to adequately convey the details of the work performed. The sub-requirements of 4.4.5 list the information that shall be provided.

6.2. Alternative Documentation

Requirement:
4.4.5. Experience documentation can be presented in other formats provided the following information is presented:
Sub-Requirements:
4.4.5.1. Date of Work 4.4.5.2. he employer for which the work was done 4.4.5.3. Details of rope access tasks and application 4.4.5.4. Location and type of structure 4.4.5.5. Hours worked 4.4.5.6. Signature of supervisor, employer, or client verifying hours worked

While a logbook is the recommended medium for documenting experience, this is the information required for documenting experience. All sub-requirements **must** be presented in the documentation for hours of experience to be valid. The name of the individual verifying hours and contact information should also be presented.

6.3. Lost Logbook

Requirement:
4.4.6. It is recommended that technicians and employers maintain electronic records of hours worked in the event the logbook is destroyed or misplaced.

In the event of a destroyed or misplaced logbook, a technician should replace it immediately. A copy of a SPRAT evaluation form or equivalent may be used to verify hours recorded prior to the date of the technician's last evaluation. The SPRAT office can furnish a copy of the relevant evaluation form upon request. Written reference including a signature from an employer, client or supervisor can be used to verify hours required for upgrading certification and the evaluator application.

6.4. Direct Entry Documentation

The requirements for direct entry for Level II and Level III are stipulated in Section 4.5 of the Certification Requirements Standard. The application process is outlined on the SPRAT website. Please note that all documentation related to direct entry must be approved by the Evaluations Committee in advance of the session. Interested candidates shall send all required documentation in addition to the Direct Entry Candidate Checklist via email to mailto:info@sprat.org for submission to the Committee no less than six weeks in advance of the scheduled evaluation session. Please note that a $125 Direct Entry Application Fee will be assessed at the time of submission. This fee does not cover the certification processing cost assessed following the completion of a successful evaluation. Approval of Direct Entry Applications must be sent directly to the Host of the evaluation session.

Requirement:
Level II DE 4.5.3.1 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 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.). 4.5.3.2andidates shall provide a work at height resume that includes 2 professional references, employers, pertinent experience, position(s), responsibilities and previous training. Level III DE 4.5.4.1 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 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.). 4.5.4.2 Candidates shall provide a work at height resume (or CV) that includes 2 professional references, employers, pertinent experience, position (including supervisory or foreman type roles), responsibilities, and previous training. 4.5.4.3 Level III candidates shall provide a letter of recommendation from a supervisor, manager or client. 4.5.4.4 Level III candidates shall provide a current First-aid and CPR/AED certification.

As applications must be approved by the Evaluations Committee, evaluators will verify that the applicant has been approved through the session host or the SPRAT Office. All direct entry candidates shall provide their documented hours to the evaluator. DE Level 3 candidates must also show their First Aid, CPR and AED certifications.

7. Grading System

7.1. Written Test

The written test evaluates candidates' understanding of the SPRAT Safe Practices and Certification Requirements Standards. The test is comprised of 40 multiple choice questions. Candidates have one hour to complete the test. A score of 80% or better constitutes a passing score for the written test (32/40 or higher is needed to pass the written test). The written test is closed book. Consulting reference materials or discussion between candidates constitutes automatic failure of the written test. Candidates must ensure their name, date and level of the test for their desired level of certification is written on the answer sheet. Candidates should choose the best answer. Not all questions have six choices. Candidates should ensure that they are marking the desired answer. If a candidate wants to change their answer, they must X out the undesired answer and clearly mark the desired answer. If a candidate wishes to return to an earlier answer, they must mark the desired answer in a clear manner. If a candidate does not understand a question, clarification can be given but discussion is not allowed. Candidates may have the test read to them. When finished with the test, candidates shall leave the room or sit without disturbing others.

7.1.1. Proctor Responsibilities

An Evaluator of Record may designate a proctor to administer the written test. The proctor must ensure that all testing materials, including the written test and answer keys, must remain secured and unavailable to the candidates prior to the written test. The proctor must read the previous section (7.1) to the candidates. The proctor must ensure that no reference material is consulted and that there is no discussion amongst candidates during the written test. Upon completion of the written test, the proctor may grade the test. The correct answer for each incorrect question should be marked with an X in red pen so candidates can see the answer to the questions that they missed. Write the number of questions missed on top of the answer sheet. Candidates may either review their errors from the written test at this time or at the end of the evaluation session. When reviewing, candidates shall initial the Reviewed with Candidate column on the answer sheet, to ensure that they understand the reason for their error. The proctor or Evaluator of Record may discuss any incorrectly answered questions with the candidate. The proctor must return all testing materials to the Evaluator of Record. The proctor must also sign a proctor affidavit that verifies the security of testing materials, as well as reading Section 7.1 to the candidates at the beginning of the test administration.

7.1.2. Failure of the Written Test

A failed written test does not prevent a candidate from participating in the field evaluation. A candidate who fails the written test but passes the field evaluation component of the course can retake the written test between 7 and 60 days from the date of the evaluation without being required to retake the Field Examination. The date of the field evaluation is used for the purposes of determining the expiration of the certification. A request to retake the written test must be made directly to the SPRAT office or the Evaluator of Record from the session. The test and instructions for proctoring the test must be sent to an individual other than the candidate by the evaluator of record from that evaluation session. The proctor must send the completed written test, either electronically or in hardcopy, to the Evaluator of Record. The Evaluator of Record will grade the test and send the results to the SPRAT office and the proctor. After the proctor has reviewed the results of the written test with the candidate, the proctor must destroy all testing materials.

7.2. Field Evaluation

7.2.1. Discrepancies and Failures

Requirement:
4.3. Grading System for Field Evaluations
Sub-Requirements:
4.3.1.Each skill is graded on P/F/D – Pass/Fail/Discrepancy 4.3.1.1. Pass (P) denotes satisfactory performance during the exercise 4.3.1.2. One Fail (F) constitutes failure of evaluation 4.3.1.3. Three Discrepancies (D) constitutes failure of evaluation

The following serve as definitions for an evaluator to determine what constitutes a failure or a discrepancy:

Failure: A **critical** safety issue performed by a candidate 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.

Discrepancy: A **non-critical** safety issue performed by a candidate 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.

Requirement (abridged*):
4.3.2 Fail (F) Examples…
Sub-Requirements:
4.3.1.9. Unprofessional conduct
Requirement (abridged*):
4.3.3 Discrepancy (D) Examples…
Sub-Requirements:
4.3.3.1. Unlocked carabiner in safety system 4.3.1.2. Helmet unfastened
Interpretation:
*Not all examples from the Certification Requirements Standard are listed here. These and other examples are included where appropriate in the interpretation of individual Certification Requirements. 4.3.1.2 Helmet (chinstrap) unfastened (in access zone)

The examples provided above from the Certification Requirements Standard, as well as examples provided in individual requirements later in this document hold true throughout the entire evaluation session.

The issuing of a fail or a discrepancy will be addressed immediately with a candidate at the time of occurrence, or prior to a candidate beginning a new exercise. The evaluator of a session has the sole authority to issue discrepancies and failures. The examples of pass, discrepancy and fail presented in this document are non-exhaustive. In addition, there may be aggravating or mitigating circumstances that require an evaluator to issue a different judgment than the examples of pass, discrepancy and fail provided.

Candidates are subject to being issued discrepancies and failures during the entire evaluation session. Even if they have completed all skills on the form, the session is not considered complete until the candidate receives a signed provisional certification.

7.2.2. Time Limits

Requirement:
Example of Fail: 4.3.2.4. Unacceptably slow at completing one or more of the tasks required **Example of Discrepancy:** 4.3.3.3. Task is not completed in timely manner

The requirements listed above are examples provided in the Certification Requirements Standard of a fail and of a discrepancy, respectively. Fixed time limits are not provided for evaluation criteria, as safe completion of a task is the priority in the evaluation session. An evaluator will not put a stopwatch on each candidate at the beginning of each task. An evaluator may invoke time limits for a candidate, provided that one or more of the following conditions are met:

1. Poor rope management (rope entanglement)
2. Inefficient technique or procedure
3. Lack of forward progress

If the evaluator invokes a time limit for a candidate that has been in a maneuver for an extended period of time, a warning will be issued to the candidate and a time limit and consequence will be agreed upon with the candidate.

Requirement:
Example of Fail: 4.3.2.3. Not capable of performing one or more of the tasks required

If a candidate is unable to complete an assigned task, a failure shall be issued. If a candidate at any level does not feel he/she has sufficient equipment to complete a task once started, the evaluator shall have the ability to assess a discrepancy or failure based on the situation.

7.2.3. Professional Conduct

Requirement:
Example of Fail: 4.3.2.9. Unprofessional conduct

Candidates are expected to act professionally throughout the evaluation session. Referencing material, providing fraudulent information or lying during a session constitutes a failure of the evaluation.

7.2.4. Failure of the Field Evaluation

In the case of a failed evaluation, a candidate retains their certification (if any) until its expiration regardless of the reason for failure. A candidate who fails the Field Evaluation must wait at least seven (7) days before retesting. The field evaluation form and the written test from the session must be sent to the SPRAT office. The candidate is not required to retake a successfully completed written test if the field evaluation is conducted within 60 days of the original evaluation session. The SPRAT office maintains records from all evaluation sessions, but a candidate will be expected to produce the copy of their field evaluation form when retesting.

7.2.5. Complaints and Appeals

Requirement:
12. COMPLAINTS AND APPEALS
Sub-Requirements:
12.1. 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 administrator shall forward all complaints and appeals, to the Evaluations Committee and the Board of Directors. 12.2. 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. 12.3. The Board of Directors can choose to reconsider any action taken by the Evaluations Committee if the Board deems the action inconsistent with established Certification Requirements or finds the action inconsistent with the best interests of the membership.

8. Field Oral Evaluation

The oral evaluation is the first of two parts of the field evaluation. Any discrepancy awarded during the oral portion of the field evaluation carries over into the practical portion of the field evaluation. The evaluator shall not teach candidates. The evaluator will not provide prompting to candidates during this portion of the evaluation, but may ask questions for clarification of statements made by the candidates.

8.2. Equipment Use & Inspection

Requirement:
Level 1: 8.2.1. Candidate must be able demonstrate understanding of proper use, inspection, and care of all equipment required for the technical skills. The candidate shall also understand the certification host's or employing company's equipment management program. *SP 8.2.2 Inspect, maintain, care for, and store personal rope access equipment.*
Level 2: 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 the employer's equipment management program as required by SPRAT *Safe Practices*. *SP 7.3.1 Adjust, inspect, maintain, properly use, care for, and store all rope access equipment necessary to perform the rope access work.*
Level 3: 10.5.1. Candidate must be able demonstrate a thorough understanding of proper use, inspection, and care of all equipment required on a rope access work site. The candidate should be able to manage and carry out the employer's equipment management program as required by SPRAT *Safe Practices*. *SP 6.5.11 Specify the appropriate rope access equipment, systems and system components, and supervise their installation, use, and inspection.*

This equipment portion of the oral evaluation tests the candidates' knowledge of equipment used in a rope access system. This knowledge can be general in nature and non-item specific, but candidates are expected to be able to speak about equipment with which they are familiar. All candidates will be asked to speak about one (1) piece of equipment. All candidates are expected to provide information about equipment along the following outline:

- What it is called?
- What are its primary functions and features?
- What are some of the dos and don'ts for Proper handling/use?
- Describe inspection for function, wear and damage

Candidates may be provided up to five (5) minutes to prepare notes for presenting this information. Criteria for each potential piece of equipment to be evaluated are presented in Appendix A. Note that these criteria are not device specific; candidates will be expected to address these criteria for the piece of equipment that he or she will be using for the evaluation. In order to pass this portion of the evaluation, the following percentage of criteria must be mentioned:

- A Level I candidate shall list at least fifty percent (≥50%) of line items in Appendix A for a piece of equipment.
- A Level II candidate shall list at least sixty-five percent (≥65%) of line items in Appendix A for a piece of equipment.
- A Level III candidate shall list eighty percent (80%) of line items in Appendix A for a piece of equipment.

Mention of less than the required percentage of criteria for each piece of equipment will result in the issuance of a discrepancy.

8.3. Job Safety

Requirement:
Level 1: 8.3.1. Candidate must be able to demonstrate an understanding of the employer's safety management program, relevant policies, work permits, work zones, and job safety analysis. Candidate should also be aware of course site hazards and emergency procedures.
Level 2: 9.5.1. Candidate must be able to demonstrate an understanding of the employer's safety management program, relevant policies, work permits, work zones, and job safety analysis as required by SPRAT *Safe Practices*.
Level 3: 10.6.1. Candidate must be able to carry out the employer's safety management program including writing a job safety analysis.

This job safety portion of the oral evaluation tests the candidates' knowledge of factors that should be considered prior to and during rope access work to improve job safety and efficiency. Depending on the number and desired levels of candidates in the evaluation session, this portion of the evaluation may be done in an oral fashion or via written notes, reviewed individually with the evaluator.

8.3.1. Rope Access Work Plan and Job Safety Analysis Components

Section 3.3 of Safe Practices Standard provides a list of the **minimum** requirements for a rope access work plan. Section 3.4 describes components of a job safety analysis. Appendix B provides a non-exhaustive list of additional factors that may be included in a rope access work plan. This information is general in nature and non-industry specific and is applicable regardless of the type of JHA/JSA document or format an employer uses.

Criteria:

A level I candidate shall name one factor from the list to consider and at least one specific detail.
A level II candidate shall name two factors to consider and at least two specific details about each of those factors
A level III candidate shall name three factors to consider and at least three specific details about each of those factors.

Mention of less than the required criteria will result in the issuance of a discrepancy.

8.3.2. Hazard Analysis / Risk Mitigation

Hazard Analysis / Risk Mitigation:

Appendix C provides a non-exhaustive list of hazards common within rope access. For each hazard, a candidate is expected to be able to discuss the following characteristics for hazard analysis and risk mitigation:

- What is the hazard?
- What risk(s) is/are associated with this hazard?
- What control(s) can be put in place to mitigate this/these risk(s)?

Criteria:

A level I candidate shall name two (2) hazards and potential control measures to mitigate the risk associated with these hazards. A level II candidate shall name four (4) hazards and potential control measures to mitigate the risk associated with these hazards. A level III candidate shall name six (6) hazards and potential control measures to mitigate the risk associated with these hazards.

Mention of less than the required criteria will result in the issuance of a discrepancy.

8.3.3. Level III Candidates

Level III candidates will be expected to present a Job Safety Analysis that they have prepared. This job safety analysis may be of a job in which they participated or for the host evaluation site. This Job Safety Analysis may be used to meet the criteria stipulated in the previous two sections.

9. Field Practical Skills Evaluation

9.1. Introduction in Using Linked Technician Evaluation Form

The Technician Evaluation Form serves as record of the evaluation session and also as a provisional certification for a candidate after successful completion of the requirements at a given level. On the next page, a hyper-linked technician evaluation form serves to help in navigating the interpretations of all Sections 8-10 of the Certification Requirements standard.

Requirement:
4.6.3.2 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.

For reading the form, each column on the right corresponds to each level of certification. Expired and direct entry candidates must complete all boxes corresponding to their desired level of certification. Recertifying and upgrade candidates holding current certifications need only complete three (3) of the gray boxes in the column of their desired level of certification.

Following the technician evaluation format, each requirement and sub-requirement has been listed in the following tabular format:

Requirement:	
Actual Requirement as stated in the Certification Requirements Standard	
Sub-Requirements:	
All Sub-requirements as stated in the Certification Requirements Standard	
Interpretation:	
Interpretation by the Evaluations Committee of requirement and individual sub-requirements as necessary.	
Host Site Requirements Specific to Task:	
Lists any specific requirements for a host to provide for an evaluation session. Schematics are provided when possible. Frequently, a minimum and a recommended amount of equipment are provided. Schematics, where appropriate, are also provided.	
Evaluation Instructions:	
Provides examples as to how each requirement or sub-requirement will be tested.	
Safety Evaluation Criteria:	
Pass:	*These three rows provide a* **non-exhaustive** *list of examples of Pass, Discrepancy and Fail criteria that are common for a specific requirement. As stated in the Grading System Section, there may be aggravating or mitigating circumstances during a session that cause an evaluator to assess a given situation differently.*
Discrepancy:	
Failure:	

While, the SPRAT Technician Evaluation Form is used as a linked reference to navigate the field portion of the evaluation, it is important to note that not all requirements for each level directly correspond to a checkbox on the evaluation form. These points are evaluated either through the written exam or throughout the entire evaluation process. In addition, as higher level candidates may be tested on lower level criteria, all interested parties should review **ALL** tables within the pertinent desired level (which is referenced through the corresponding numbers at the top of the columns in the sheet). Evaluators may combine maneuvers to increase the efficiency of the evaluation session. If a candidate is uncomfortable with the complexity of the combined exercise, they may ask the evaluator to separate the skills. The requirements not directly linked through the evaluation form are:

Level I
• 8.1 Roles and Responsibilities • 8.8 Switching from Ascent to Descent (Change-over) • 8.23 Awareness of Simple Mechanical Advantage Systems
Level II
• 9.1 Proof of 500 hours work experience as Level I • 9.2 Proficiency of Level I Skills • 9.3 Roles and Responsibilities • 9.6 Rigging and System Dynamics • 9.7 Rescue Considerations
Level III
• 10.1 Proof of 500 hours work experience as Level II • 10.2 Proficiency of Level I and Level II Skills • 10.3 Roles and Responsibilities • 10.7 Rigging and System Dynamics • 10.8 Rescue Considerations

9.2 Technician Evaluation Form

Serial Number:

Candidate Name			
Street Address			
City		ZIP/ Postal	
State/ Province		Country	
e-mail			
Phone			
Date of Birth	M	D	Y
Current Level		SPRAT Number	
First Aid Expiration		CPR Expiration	

Evaluation Date	
Evaluation Location	
Evaluation Host	
Trainer Name	
Evaluator Name	
Evaluator Number	

I certify that this candidate has demonstrated all skills relevant to his or her level of certification consistent with SPRAT Safe Practices and Certification Requirements and that all SPRAT Evaluation procedures have been followed.

Evaluator's Signature:

☐ Liability Release ☐ Gov. Issued ID verified by Eval

☐ Logbook Hours:_____☐ Test Score: _____

Comment:

Circle Evaluation Result: Pass Fail

Level Attained: I II III

If Evaluation result is marked **PASS**, this form serves as a provision certification for 60 dates from the Evaluation Date marked above. An official SPRAT certification card should be presented beyond this provisional period.

	1	2	3
Equipment Use & Inspection	8.2	9.4	10.5
Job Safety Analysis and Awareness	A 8.3	A 9.5	10.6
Management & Communication		A X	10.4
Knot: ☐ Mid ☐ End ☐ Join ☐ Stop	8.4		
Hitches: ☐ Friction LII ☐ Load-release LIII		9.8	10.9
Back-up device handling	8.5		
Ascender (Ascent/Descent)	8.7		
Descender (Ascent/Descent/Lock off)	8.6		
Use of Work Seat	8.9		
Pass Knots (isolate damaged rope)	8.10		
Rope-to-rope Transfer	8.11		
Deviation (redirect)	8.12		
Short Rebelay (<6 ft/1.8 M)	8.13		
Long Rebelay (>6 ft/1.8 M)	8.14		
Negotiate edge	8.15		
Install/Pass Rope Protection	8.16		
Simple Structural Anchor	8.17		
Load-sharing Anchors	A 8.18	9.9	
Pull-through Anchors		9.10	
Anchors Pre-rigged to Lower			10.10
Mechanical Anchor Systems			A 10.11
Climbing w/ Shock-absorbing Lanyards	8.19		
Aid Climbing (Horizontal or Incline)		9.11	
Belaying w/communication	8.20		
Lowering	8.21		
Pick-off (Casualty descending)	8.22		
Pick-off (Casualty ascending)		9.12	
Pick-off through obstacle (knot, rebelay, long rebelay, deviation)			10.13
Rescue hauling: Platform or pitch head		9.13	
Cross Hauling (team exercise)		9.13	
Guideline or Highline			10.15
Rescue from aid traverse			10.14
Team Rescue/Work Scenario			10.12

I hereby affirm that I have completed all of the skills listed above and I accept the evaluation results. I have read and I am familiar with the SPRAT documents applicable to the level of certification for which I am applying, including the current version of SAFE PRACTICES FOR ROPE ACCESS WORK as well as CERTIFICATION REQUIREMENTS FOR ROPE ACCESS WORKERS. I am qualified for certification under these requirements, and I am physically fit and capable of undertaking the activities described. All of the information provided on this form is true and correct.

Candidate Signature:

Society of Professional Rope Access Technicians
994 Old Eagle School Rd, Suite 1019, Wayne, PA 19087-1802
1.610. 971.4850 www.sprat.org info@sprat.org

9.3 LEVEL I TECHNICIAN (ROPE ACCESS WORKER) REQUIREMENTS

*Section 8 of SPRAT Certification Requirement Standards

Requirement:
8.1. Roles and Responsibilities
Sub-Requirements:
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.
Interpretation:
These responsibilities may be found in Section 8 of the SPRAT Safe Practices Standard. This requirement is largely evaluated through the Level I written test, except for where specific bullets within this section of the Safe Practices as they are referenced in other evaluated criteria. Candidates will be expected to participate in group exercises to the level of their desired level of certification.

Requirement:
8.2. Equipment Use and Inspection
Sub-Requirements:
8.2.1. Candidate must be able demonstrate understanding of proper use, inspection, and care of all equipment required for the technical skills. The candidate shall also understand the certification host's or employing company's equipment management program.
Interpretation:
This requirement is largely evaluated during the Equipment Use and Inspection portion of the field oral evaluation. Proper use of equipment by candidates is observed throughout the evaluation. Examples of Discrepancies and Failures for equipment misuse may be found throughout the document (e.g., 8.7 Use of Ascenders)
Host Site Requirements Specific to Task:
See Evaluation Facility and Equipment Requirements

Requirement:	
8.3. Job Safety	
Sub-Requirements:	
8.3.1. Candidate must be able to demonstrate an understanding of the employer's safety management program, relevant policies, work permits, work zones, and job safety analysis. Candidate should also be aware of course site hazards and emergency procedures.	
Interpretation:	
As discussed during the Job Safety Section earlier in the document, this requirement is largely evaluated during the oral portion of the evaluation. For Level I candidates, Section 8 of the Safe Practices Document serves as a basis for evaluation. Beyond the written and oral portions of the evaluations, candidates will be evaluated over their adherence to the host site's job safety analysis throughout the evaluation. Examples provided here are for the field practical skills portion, not the field oral portion of the evaluation.	
Host Site Requirements Specific to Task:	
None	
Safety Evaluation Criteria:	
Discrepancy:	• 4.3.3.1. Unlocked carabiner in safety system • 4.3.3.2. Helmet (chinstrap) unfastened (in access zone) • Dropped equipment
Failure:	• 4.3.2.1. Relying on one rope system when that system is your primary means of support • 4.3.1.3. Not capable of performing one or more of the tasks required • 4.3.1.7. No fall protection used when within 6 feet (1.8 meters) of an unprotected edge • 4.3.1.10. No helmet while working at height

Requirement:

8.4. Knots:

Sub-Requirements:

8.4.1. 1. The 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, Figure 9, Bowline)
8.4.1.2. knot to join two ropes (e.g. Double Fisherman's, Flemish Bend)
8.4.1.3. middle knot (e.g. butterfly)
8.4.1.4. stopper knot to prevent descending off end of ropes (e.g. barrel knot)

Interpretation:

8.4.1. Candidates shall know the name of the knot they tied as well as an application. A general rule of thumb for strength reduction when tying a knot is sufficient (~30%).
8.4.1.1 Figure 8 and Figure 9 refer to the knots tied on a bight.
8.4.1.2 Rope of similar diameter shall be used. Candidates should know if bend is appropriate for connecting different diameters of rope.
8.4.1.3 Care must be taken that the middle knot cannot capsize
8.4.1.4 Barrel knot is equivalent to a double overhand

Host Site Requirements Specific to Task:

- At a minimum, 2 ropes, ≥ 2 meters (6.6 feet) each, should be available for knot tying.
- Excessive lengths of rope can make evaluating this criteria inefficient

Evaluation Instructions:

A Level I candidate shall demonstrate these knots as a separate exercise, unless it is agreed upon with the evaluator. For example, if used in conjunction with 8.17 Simple Structural Anchors, the evaluator **SHALL** specify if they expect ropes and knots to be included in that exercise. Level II and Level III candidates may demonstrate these knots during maneuvers or operations throughout the course of the evaluation or as a separate exercise.

Safety Evaluation Criteria:

Discrepancy:	• Small tail (<2") on end or stop knot • Excessive tail longer than 12" not addressed to prevent misuse • Ability of mid-line knot to capsize • Knot undressed (e.g., double overhand not rolled over properly) • Knot undressed – twists, loose, incorrect (e.g., double fisherman's double overhands do not nest properly) • No stopper knots- rope ends do not touch ground, tails ≤4 feet from ground
Failure:	• Inability to tie knot • No stopper knots- rope ends do not touch ground, tails >4 feet from ground

Requirement:

8.5. Back-up Devices and Use of two-rope system:

Sub-Requirements:

8.5.1. 1. Candidate shall demonstrate the use of an appropriate back-up device attached to a secondary 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 and trainer 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 recommendations in the proper use of the device

Interpretation:

Usage of the back-up device shall be in accordance with manufacturer's instructions. Candidate must be aware of clearance requirements with use of specific back-up device. Back-up device use will be evaluated throughout the entire session. If supporting 100% of the candidate's weight, the candidate's hands and feet are considered a point of contact in the evaluation. For example, a candidate may climb a structure using one rope and an effective back-up device. A candidate may also sit at an edge with only one connection, provided it is an effective back-up.

Host Site Requirements Specific to Task:

2 Back-up devices should be available and dedicated to each candidate. At least one of these devices should be able to handle a 2-person load. Additional back-up devices may aid in efficiency of completing Level II and Level III tasks.

Safety Evaluation Criteria:

Discrepancy:	• Low back-up device
Failure:	• 4.3.2.1. Relying on one rope system when that system is your primary means of support • 4.3.2.2. Ineffectively used back-up device (e.g. big loop; upside down) • 4.3.2.8 Use of an inappropriate back-up device not designed to accept a shock-load • Weighting of fall restraint at an edge where center of gravity is not on feet

Requirement:

8.6. Use of Descenders (descent control devices):

Sub-Requirements:

8.6.1. 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 recommendations. 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 the 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 failure depending on the severity of the error.

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

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

Interpretation:

Usage of a descender shall be in accordance with manufacturer's instructions
8.6.1.2. Requirements for Lock-off or tie-off of device are determined by the manufacturer.
8.6.1.3. For example, operating a descender without proper control of the slack end of the rope during a rescue would constitute a failure.
8.6.1.4. Refers to the use of an auto-block or other conditional self-belay.

Host Site Requirements Specific to Task:

One (1) descender should be available and dedicated to each candidate.
Additional descenders are recommended to increase efficiency for other operations during the evaluation.

Evaluation Instructions:

Beyond the criteria stipulated in the sub-requirements, proper usage of descenders by candidates will be observed throughout the evaluation.

Safety Evaluation Criteria:

Discrepancy:	• Repeated failure to properly lock or tie off descender (as required by manufacturer) • 4.3.3.5. Not providing additional friction as required by manufacturer instructions in certain circumstances (e.g., two-person loads) • Rope not routed properly over rolled plate (as required by manufacturer) • Excessive slack (>1ft) created above descender (i.e., standing on structure)
Failure:	• 4.3.2.5. Uncontrolled or dangerous descent or swing • 4.3.2.6. Descender threaded incorrectly and used in that manner

Requirement:

8.7. Use of Ascenders

Sub-Requirements:

8.7.1. Candidate shall demonstrate the proper use of an appropriate ascending system connected to the main working line. A variety of systems will be accepted if used consistent with industry best practice and manufacturer's recommendations. Some considerations include:
8.7.2. Candidate can climb 10 meters (33 feet) efficiently and without physical duress.
8.7.3. Candidate can climb down 2 meters (6.6 feet) 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 30 cm (1 foot) or eliminated entirely.

Interpretation:

Usage of ascenders shall be in accordance with manufacturer's instructions
8.7.4. Static loading of chest ascender only on rope is permissible. Movement on rope with chest ascender as only connection on rope will be evaluated based on manufacturer's instructions.
8.7.6 Determination of discrepancy or failure for fall potential in excess of 30cm will be made based on the potential fall distance, the consequence of that fall and the location of the back-up device during the incident.

Host Site Requirements Specific to Task:

2 ascenders (e.g., chest and hand) should be available and dedicated to each candidate.
Additional rope grabs are recommended for other operations during the evaluation.

Evaluation Instructions:

Beyond the criteria stipulated in the sub-requirements, proper usage of ascenders by candidates will be observed throughout the evaluation.

Safety Evaluation Criteria:

Pass:	• Potential fall onto toothed ascender <30cm (~12")
Discrepancy:	• Handling where device could be accidentally removed from rope • Potential fall onto toothed ascender 30cm≤x≤60cm (~12" ≤x≤~24") • Side-Loading over an edge • Loading chest ascender in the bottom of a loop
Failure:	• Ascender used as back-up device • Potential fall onto toothed ascender >60cm (~24")

Requirement:
8.8. Switching from Ascent to Descent (Change-over)
Sub-Requirements:
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.
Interpretation:
While there is no checkbox on the evaluation form for this maneuver, this requirement is fulfilled during a number of maneuvers in the evaluation, notably 8.10 Passing Knots.
Host Site Requirements Specific to Task:
None
Evaluation Instructions:
This exercise may be initially evaluated through a combination of Use of Descenders (8.7.6) and Use of Ascenders (8.7.7). For example a candidate may be asked to ascend using their ascender (8.6.1.5), change-over to ascent, then descend on their ascenders (8.7.3). Change-overs will be observed throughout the evaluation.
Safety Evaluation Criteria:

Discrepancy:	• Chest ascender loaded and taut below descender
Failure:	• Removing chest ascender prior to rigging descender (depends on fall distance – see passing knots)

Requirement:
8.9. Use of work seat
Sub-Requirements:
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 rope.
Interpretation:
Usage of a work seat shall be in accordance with manufacturer's instructions. Candidate must remain directly connected to the working and safety lines.
Host Site Requirements Specific to Task:
A minimum of 1 work seat, but ideally at least 1 work seat for every 4 candidates
Evaluation Instructions:
Candidates are expected to complete at least one maneuver while using work seat. Evaluator may ask candidate to put on or adjust work seat while on rope.
Safety Evaluation Criteria:

Discrepancy:	• Using the seat in a way that causes hardware incompatibility or improper loading of components • Improperly adjusted work seat that candidate cannot adjust while on rope • Attached to lateral connections on harness
Failure:	• In work seat w/o direct attachment to main line

Requirement:

8.10. Passing Knots

Sub-Requirements:

8.10.1. The 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, the candidate must be aware of how to use an appropriate knot as a secondary back-up.

Interpretation:

Separate knots will be tied on both the main and safety lines at the same height. The knot tied may join two ropes together or be tied to simulate a damaged rope encountered at a work site. These knots should be placed on the ropes between 6 and 9 ft. (2 to 3m) above grade.

Host Site Requirements Specific to Task:

At a minimum, 2 rope sets should be available for passing knots. Any vertical hanging rope set can be converted to use for passing knots.

Evaluation Instructions:

Candidates may be asked to ascend, tie knots ~2m below them, descend pass the knots, change-over and ascend past the knots. The evaluator shall specify that the knots represent isolated damage on the rope.

Safety Evaluation Criteria:

Pass:	• Ascent past knot with no descender or back-up device attached to main line - potential fall distance <30cm (~12”)
Discrepancy:	• Ascent past knot with no descender or back-up device attached to main line - potential fall distance 30cm≤x≤60cm (~12” ≤x≤~24”) • Low back-up device on safety line after passing knot on main line • Back-up device too close to a knot with a device that requires clearance above obstacles
Failure:	• Use of knot as connection point • Ascent past knot with no descender or back-up device attached to main line - potential fall distance >60cm (~24”)

Requirement:

8.11. Rope-to-Rope Transfers

Sub-Requirements:

8.11.1. Candidate shall demonstrate transferring from one pair of ropes to another pair of ropes anchored more than 2 meters (6.6 feet) 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, the candidate must be aware of how to use an appropriate knot as a secondary back-up.
8.11.4. The 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.

Interpretation:

8.11.2 Swing potential shall be eliminated during the exercise
8.11.3 A secondary connection using a midline knot may be used. If rope or lanyard tangles are present while a candidate completes the exercise, an evaluator may stop a candidate to ask him/her to demonstrate this task.
8.11.4 A rope-to-rope transfer may be safely completed transferring from ascent mode to descent mode. The efficiency of completing the task in this manner will be evaluated.

Host Site Requirements Specific to Task:

Rope-to-rope transfer must be capable of generating more than a 30 degree angle from the plumb line of each of the anchors when at the midpoint of the maneuver. The required interior angle to complete a rope-to-rope transfer should not exceed 120 degrees.

At minimum, two rope sets (four ropes total) should be available for two rope-to-rope transfers.

Evaluation Instructions:

Candidate will be asked to complete a rope-to-rope transfer. Candidate will not be asked to return to initial rope set after completing maneuver. Evaluators should specify that forgotten or dropped transfer rope(s) will result in a discrepancy.

Safety Evaluation Criteria:

Discrepancy:	• Forgetting to attach transfer ropes prior to beginning maneuver • Rope to rope transfer done while ascending on descenders and descending on ascenders (inefficiently) • Dropping transfer rope(s) after starting maneuver
Failure:	• No back-up connection to far anchor set, off plumb from near anchor set >20°

Requirement:

8.12. Deviation (redirect)

Sub-Requirements:

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.

Interpretation:

8.12.1.1. A deviation of 20 degrees places approximately 35% of the load on the deviation anchor. Deviation anchorage must be selected to provide a sufficient safety factor.
8.12.1.2. For the purposes of evaluation, deviation anchorages, no matter their strength, will **NOT** be considered strong enough as a connection point. While a candidate may temporarily connect to deviation anchor, this connection is not considered a replacement of either the main or back-up lines in a two-rope system.
8.12.1.3. A knot is expected at a suitable distance below the deviation anchor to aid the candidate's return on descent. Knot choice is not specified, but should be chosen to facilitate a rescue (e.g., knot available from ground, slipknot, etc.)

Host Site Requirements Specific to Task:

Deviation should be as close to 20 degrees as possible. The height of the intermediate, deviation anchor should be sufficient so it cannot be reached from the ground (≥3m). It is helpful for the top anchor to be separated by another similar distance to provide clearance for candidates to change-over at a distance above the intermediate, deviation anchor.

At minimum, one rope set should be dedicated through deviation anchors.

Evaluation Instructions:

Candidate will be asked to both ascend and descend past a deviation anchor.

Safety Evaluation Criteria:

Discrepancy:	• Unlocked carabiner on deviation anchor – candidate above or below deviation • Uncontrolled lower away from deviation anchor on ascent • No knot below carabiner on deviation anchor to facilitate return through deviation
Failure:	• Deviation anchor used as attachment point

Requirement:

8.13. Short Rebelay (passing an intermediate anchor)

Sub-Requirements:

8.13.1. Candidate shall demonstrate ascending and descending past an intermediate anchor that is less than 2 meters (6.6 feet) 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.

Interpretation:

As compared to the deviation anchor, intermediate anchors of the short rebelay, if accessible, are considered suitable as a connection point. The intermediate anchor and the top anchor can be used to maintain two points of attachment **ONLY** when the swing potential is minimized or eliminated. Candidate may transfer directly from climbing to far side of ropes. As compared to the long rebelay (8.14), ropes below intermediate anchor may be pulled across area during this maneuver.

Host Site Requirements Specific to Task:

Separation of intermediate and top anchors shall be separated no more than 2 meters (6.6 feet). The intermediate anchor should be at least 3m (9.8 ft) above grade. Both intermediate and top anchors can be at the same height, but is helpful if the intermediate and top anchors are separated vertically by a distance to provide clearance for candidates to change-over at a distance above the intermediate anchor.

The site must have at least one dedicated short rebelay.

Evaluation Instructions:

Candidate shall be asked to ascend and descend past a short rebelay.

Safety Evaluation Criteria:

Pass:	• Ground ropes brought across towards upper anchor during transfer
Discrepancy:	• One connection point on upper anchor, one connection on intermediate anchor with high swing potential
Failure:	• Main and back-up lines derive from same anchorage

Requirement:

8.14. Long Rebelay

Sub-Requirements:

8.14.1. Candidate shall demonstrate ascending and descending past an intermediate anchor that is greater than 2 meters (6.6 feet) 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 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.

Interpretation:

As compared to the short rebelay (8.13), climbing ropes below anchors may **NOT** be pulled across area during this maneuver.
The lines used to connect the anchors should be of sufficient length to allow slack in the belly while a candidate is at the midpoint of the maneuver

Host Site Requirements Specific to Task:

Long rebelay should be capable of generating an angle 45 degrees or shallower from the plumbline of each of the anchor when at the midpoint of the maneuver. The required interior angle to complete a rope-to-rope transfer should not exceed 120 degrees. The bottom of these lines should be ≥2m above grade.

The site must have at least one dedicated long rebelay.

Evaluation Instructions:

A candidate might be asked to go “out and back” or “out and down.” In the schematic a candidate could be asked to ascend climbing ropes and transfer across to the far side and return or descend along the dashed lines, if present in the host facility.

Safety Evaluation Criteria:

Discrepancy:	• Climbing ropes brought across middle area during transfer • Loading of ascender in bottom of belly • Chest ascender only (w/backup) on destination set, off plumb from near anchor set >20°
Failure:	• Main and back-up lines derive from same anchorage • No secondary connection to far anchor set, off plumb from near anchor set >20°

Requirement:

8.15. Negotiate Edge

Sub-Requirements:

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 2 meters (6.6 feet) from an unprotected edge and be located on the horizontal surface or within 2 meters (6.6 feet) above the horizontal surface. If the edge is protected by a railing, the 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.

Interpretation:

Edge Negotiations should allow the technician to safely move on/off of the rope access system, whether by moving out of the access zone, or safely attaching to another anchor with a lanyard, or shock absorbing lanyard, self-retracting lifeline, horizontal lifeline or other suitable fall arrest system that meet local standards. The candidates will be asked to remove the guard rail or negotiate the edge underneath the guard rail to simulate an unprotected edge.

Host Site Requirements Specific to Task:

A 90 degree edge should be available for demonstrating the maneuver. Regardless of host measures to mitigate an edge, all edges in the evaluation setting will be required to have proper Rope and/or Edge protection.

Evaluation Instructions:

Candidate will be asked to ascend and descend past edge.

Safety Evaluation Criteria:

Discrepancy:	• Small slip over edge • Side-Loading of device(s) on edge • Back-up device below edge during transition over edge.
Failure:	• Large fall over edge • Ineffectively low back-up device

Requirement:	
8.16. Rope and Sling Protection	
Sub-Requirements:	
8.16.1. Candidate shall demonstrate awareness and proper use of rope and sling protection as required by the training site. The candidate will be asked to pass a rope protector installed on both the working and safety lines.	
Interpretation:	
Type of rope protection is not specified, but must be suitable to the host site.	
Host Site Requirements Specific to Task:	
Additional rope protection beyond what is used for rigging the host site is required for demonstrating this skill.	
Evaluation Instructions:	
This requirement is usually done on the edge negotiation, but can be set up elsewhere. Use of appropriate rope, sling or edge protection will be observed throughout the evaluation.	
Safety Evaluation Criteria:	
Discrepancy:	• Rope not properly seated within protection • Rope protection left unfastened or unclosed • Rope protection ineffective and addressed
Failure:	• Rope protection ineffective and NOT addressed

Requirement:
8.17. Simple Structural Anchor
Sub-Requirements:
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.
Interpretation:
Candidates shall establish an effective anchor for a two-rope system. This may be completed using hardware and slings or with appropriate end knots.
Host Site Requirements Specific to Task:
Additional equipment, such as slings, carabiners and rope, beyond what is used for the rigging of the host site shall be provided for the exercise. 2x nylon or wire slings, 2x carabiners and/or delta links, and 2x 10m (30ft) ropes is a recommended minimum.
Evaluation Instructions:
At the beginning of the exercise, the evaluator shall specify if one anchor is sufficient to demonstrate this skill or if anchorages for a full two-rope system are expected. As discussed earlier, the evaluator may combine this exercise with others, such as knots.
Safety Evaluation Criteria:

Discrepancy:	• Triaxial loading of carabiner (e.g. excessive sling angle - >45° between connect legs at top of "Y") • Hard choke of sling (0-30 degrees) with insufficient safety factor
Failure:	• Structural anchor chosen by candidate likely to fail.

Requirement:
8.18. General Anchor Inspection
Sub-Requirements:
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 III candidates.
Interpretation:
Criteria for inspection are provided in 9.9 Load Sharing Anchors (9.9.1).
Host Site Requirements Specific to Task:
See 9.9 Load Sharing Anchors
Evaluation Instructions:
While not required Level I candidates may tie load sharing anchors for inspection. Alternatively, an evaluator may tie a load sharing anchor for a candidate to inspect. Candidates are expected to be able to address criteria listed in 9.9 Load Sharing Anchors.
Safety Evaluation Criteria:

Discrepancy:	• Limited knowledge of Load-distributing anchor concepts in 9.9 Load Sharing Anchors (9.9.1)
Failure:	• No knowledge of Load-distributing anchor concepts in 9.9 Load Sharing Anchors (9.9.1)

Requirement:

8.19. Climbing with Shock-absorbing Lanyards

Sub-Requirements:

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.

Interpretation:

Candidate will be expected to demonstrate safe movement using shock-absorbing lanyards. As presented in Appendix A, candidates shall be able to discuss proper use of shock-absorbing lanyards, especially fall clearance and potential misuse. Since shock absorbing lanyards have a high minimum safe distance, another piece of equipment, such as a self-retracting lanyard, should be used for the actual fall protection during the Evaluation.

Host Site Requirements Specific to Task:

- A tower, ladder or horizontal lifeline system.
- At least one shock absorbing 2 leg lanyard.

Evaluation Instructions:

Candidate will be asked to demonstrate safe movement using shock-absorbing lanyards. Evaluator may ask candidate questions regarding fall clearance and other proper use during the exercise.

Safety Evaluation Criteria:

Discrepancy:	• Inappropriate clip of lanyard behind shock absorber • Poor knowledge of fall clearance
Failure:	• Used as backup within rope access with insufficient clearance • No knowledge of fall clearance

Requirement:
8.20. Belaying with Communication
Sub-Requirements:
8.20.1. Candidate will be asked to manage the safety rope of another worker. Consistent communication between belayer and worker 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 instructions. A self-braking device is not required as long as proper technique is demonstrated.
Interpretation:
Communication method shall be established prior to the beginning of any operations. Belay equipment must be compatible with rope type and able to arrest the fall of a worker.
Host Site Requirements Specific to Task:
Platform or structure and suitable anchorages as described in Facility Site Requirements Rope must be sufficient length to provide a belay for the exercise.
Evaluation Instructions:
This requirement may be evaluated in conjunction w/ 8.21 Lowering or as an individual exercise. Candidate will be asked to move rope through the belay in either direction and must know how to lock and unlock the belay. Candidate may be asked to provide a belay from a platform, from the ground or while suspended on a separate rope access system. The worker to be belayed may be climbing a structure or ascending or descending a separate rope.

Safety Evaluation Criteria:	
Pass:	• Munter hitch used as belay
Discrepancy:	• Excessive slack in belay line (>2ft) • Belay from harness and tied into anchor • No stopper knot on belay line
Failure:	• Excessive slack in belay line (>4ft) • Belay from harness and NOT tied into anchor

Requirement:
8.21. Lowering
Sub-Requirements:
8.21.1. Candidate shall demonstrate lowering another worker 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 instructions.
Interpretation:
Communication method shall be established prior to the beginning of any operations. Lowering equipment must be compatible with rope type and able to lower a worker in a controlled fashion.
Host Site Requirements Specific to Task:
Platform or structure and suitable anchorages as described in Facility Site Requirements Rope length must be sufficient length to lower an individual from the anchor.
Evaluation Instructions:
This requirement may be evaluated in conjunction w/ 8.20 Belaying with Communication or as an individual exercise. Candidate may be asked to lower a worker from an anchor, a platform, from the ground through a directional anchor or while the candidate is suspended on a separate rope access system. If possible with chosen equipment, candidate may be asked to perform both belay and lowering operations simultaneously. If a self-braking device is not used, candidate shall know how to properly tie off device.
Safety Evaluation Criteria:

Discrepancy:	• Rope not routed over side plate of lowering device (as required by manufacturer) • Inability to lock off lowering device
Failure:	• 4.3.2.5. Uncontrolled or dangerous descent or swing • 4.3.2.6. Descender threaded incorrectly and used in that manner

Requirement:

8.22. Pick-off Casualty on Descent

Sub-Requirements:

8.22.1. Candidate will be asked to perform a pick-off rescue of an incapacitated 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. The candidate shall perform an initial scene safety survey before carrying out any rescues. Proper casualty management should be considered and demonstrated.

Interpretation:

Proper connections to ventral or sternal D on casualty are expected. Casualty must have two connections within the rope access system at all times during the exercise. An 'escape' carabiner is not required between the candidate and their descender; however, if used, the 'escape' carabiner must be effective. If required by the manufacturer, extra friction must be added to accommodate a two-person load. Candidate may connect to the casualty and use the casualty's system or lower casualty onto candidate's system to complete the exercise. For Level 3 candidates, this may be combined with the obstacle rescue.

Host Site Requirements Specific to Task:

Back-up device and descender effective for a two-person load

Evaluation Instructions:

Candidate will be asked to perform a pick-off rescue with the casualty in descent mode. Candidate may be asked to approach the casualty from above or by ascending up to the casualty. Candidate may be asked to use the same rope set as the casualty or an adjacent rope set.

Safety Evaluation Criteria:

Pass:	• Candidate approaches casualty on casualty's main line from below
Discrepancy:	• 'Escape' carabiner Installed, but not used correctly • No or ineffective extra friction (if required by manufacturer) • Friction carabiner not attached to sufficiently rated component of harness • Pickoff onto chest ascender of candidate (rescuer still in ascent) • Poor casualty management
Failure:	• Back-up device ineffective for 2-person load • Cutting a casualty's attachment point

Requirement:
8.23. Awareness of Simple Mechanical Advantage Systems
Sub-Requirements:
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 III Technician.
Interpretation:
Candidates are expected to understand the basic components of a mechanical advantage system (progress capture, rope grabs, pulleys, carabiners, ropes). Candidates are expected to be able to identify a simple mechanical advantage system (e.g., 3:1s, 5:1s). Candidates are expected to be able to participate in group exercises under the direction of higher level candidates.
Host Site Requirements Specific to Task:
Sufficient equipment to build a compound 9:1 mechanical advantage system.
Evaluation Instructions:
Evaluator may ask Level I candidate to operate a mechanical advantage system under the direction of a higher level candidate. If no higher level candidates are present in the evaluation session, evaluator may build a mechanical advantage system as part of 8.21 Lowering and ask candidate(s) to operate that system.
Safety Evaluation Criteria:

Discrepancy:	• Candidate attached in platform hauling system (hand ascender via lanyard)
Failure:	• No awareness of mechanical advantage systems

9.4. LEVEL II TECHNICIAN (ROPE ACCESS LEAD TECHNICIAN) REQUIREMENTS

*Section 9 of SPRAT Certification Requirement Standards

Requirement:
9.1. The candidate must provide proof of at least 500 hours of work experience as a Level I Technician or equivalent.
Interpretation:
See Section on expectations for Documenting Experience

Requirement:
9.2. The candidate may be asked to demonstrate proficiency in the skills and knowledge required of a Level I Technician in addition to those specified below.
Interpretation:
As a Level II technician may be granted limited supervision over a Level I Technician, a Level II technician can be expected to be competent in all the skills evaluated during a Level I certification. An Evaluator shall choose 3 of the gray boxes in the Level II column to fulfill this requirement. Expired and Direct Entry candidates shall demonstrate all skills required of lower levels.

Requirement:
9.3. Roles and Responsibilities
Sub-Requirements:
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 the employer's rope access program.
Interpretation:
These responsibilities may be found in Section 7 of the SPRAT Safe Practices Standard. This requirement is largely evaluated through the Level II written test, except for where specific bullets within this section of the Safe Practices as they are referenced in other evaluated criteria. Candidates will be expected to participate in group exercises to the level of their desired level of certification.

Requirement:
9.4. Equipment Use and Inspection
Sub-Requirements:
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 the employer's equipment management program as required by SPRAT *Safe Practices*.
Interpretation:
This requirement is largely evaluated during the Equipment Use and Inspection portion of the field oral evaluation. Proper use of equipment by candidates is observed throughout the evaluation. Examples of Discrepancies and Failures for equipment misuse may be found throughout the document (e.g., 8.7 Use of Ascenders)
Host Site Requirements Specific to Task:
See Evaluation Facility and Equipment Requirements

Requirement:
9.5. Job Safety
Sub-Requirements:
9.5.1. Candidate must be able to demonstrate an understanding of the employer's safety management program, relevant policies, work permits, work zones, and job safety analysis as required by SPRAT *Safe Practices*.
Interpretation:
As discussed during the Job Safety Section earlier in the document, this requirement is largely evaluated during the oral portion of the evaluation. For Level I candidates, Section 8 of the Safe Practices Document serves as a basis for evaluation. Beyond the written and oral portions of the evaluations, candidates will be evaluated over their adherence to the host site's job safety analysis throughout the evaluation. Examples provided here are for the field practical skills portion, not the field oral portion of the evaluation.
Host Site Requirements Specific to Task:
None
Safety Evaluation Criteria:

Discrepancy:	• 4.3.3.1. Unlocked carabiner in safety system • 4.3.3.2. Helmet (chinstrap) unfastened (in access zone) • Dropped equipment
Failure:	• 4.3.2.1. Relying on one rope system when that system is your primary means of support • 4.3.1.3. Not capable of performing one or more of the tasks required • 4.3.1.7. No fall protection used when within 6 feet (1.8 meters) of an unprotected edge • 4.3.1.10. No helmet while working at height

Requirement:
9.6. Rigging and System Dynamics
Sub-Requirements:
9.6.1. Candidates should have an understanding of forces involved in rigging rope access systems including concepts such as angle physics, fall factors, and dynamic loading.
Interpretation:
Level II candidates are expected to have a general understanding of theory behind forces in rigging.
Host Site Requirements Specific to Task:
None
Evaluation Instructions:
Evaluator may ask candidates questions about angle physics, fall factors or dynamic loading in exercises, such as 9.9 Load-Sharing Anchors, 8.19 Shock-Absorbing Lanyards or 9.13 Rescue Hauling.
Safety Evaluation Criteria:

Discrepancy:	• Inability to articulate forces of bridle legs for load-sharing anchor with internal angle of 120°
Failure:	• No understanding of criteria stated in requirement

Requirement:
9.7. Rescue Considerations
Sub-Requirements:
9.7.1. Candidates should have a working knowledge of rescue procedures and considerations including harness-induced suspension trauma.
Interpretation:
Requirement is primarily covered in the job safety portion of the oral evaluation. Candidates should have an awareness of the theory of harness-induced suspension trauma. Suffice is to say that an unconscious casualty suspended on rope is a serious safety issue.

Requirement:
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:
Sub-Requirements:
9.8.1. Friction hitch (e.g. Prusik, Auto-block)
Interpretation:
Candidates are expected to be able to tie a rope grab using a soft good. Rope grab must be effective for purpose, such as ascending or as part of a haul system.
Host Site Requirements Specific to Task:
Slings or prusik cord must be available.
Evaluation Instructions:
Candidate may be asked to tie a friction hitch as a separate exercise or in conjunction with another exercise, such as 9.13 Rescue Hauling
Safety Evaluation Criteria:

Discrepancy:	• Not dressed properly - twists • Not dressed properly - bend of cord over loops

Requirement:

9.9. Load-sharing Anchors (Y-anchor)

Sub-Requirements:

9.9.1. Some considerations for establishing load-sharing anchors should include: redundancy, anchor location, bridle angle, connector loading, sling choice, and edge protection. The 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)

Interpretation:

Candidate should understand reasons for tying a load-sharing anchor (redundancy, strength and line of fall). Candidates are expected to have an understanding of the criteria specified in 9.9.1. Efforts should be made by the candidate to minimize consequences of one anchor or leg failure (shallower angle to minimize extension and swing). Load sharing anchors may share slings and carabiners if there are small consequences to failure (similar to IRATA double protection).

Host Site Requirements Specific to Task:

Suitable anchor points and material for tying load-sharing anchors in the situations described above.

Evaluation Instructions:

Candidate may be asked to tie a load sharing anchor as a separate exercise or as part of another exercise. Evaluator shall specify if two anchors and/or ropes are expected for the exercise.

- 4 nylon or wire slings, 4 carabiners and 2x 15m (45ft) ropes is a recommended minimum.

Safety Evaluation Criteria:

Pass:	• Load Sharing Anchor internal angle $\theta \leq 120°$
Discrepancy:	• Direction of Pull loads anchor unsafely (e.g. bolt hanger loaded improperly) • Internal angle $\theta > 120°$ (insufficient safety factor)
Failure:	• Non-redundant (anchor or anchorage leg failure)

Requirement:
9.10. Pull-through Anchors
Sub-Requirements:
9.10.1. Candidates 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.
Interpretation:
Specific method is not specified. Candidates are expected to consider the criteria presented when deciding which method is appropriate. There are many ways to delineate the pull ropes (e.g., leaving pull ropes coiled until on rope set or tying knots in pull ropes); however, pull ropes must be marked in some fashion. Pull ropes may be different than ropes used to rig anchors.
Host Site Requirements Specific to Task:
Depending on the site facility, sufficient rope length for drop and pull rope, as well as carabiners and rope protection as required. • 2x 30m (100ft) ropes, 1x 15m (50ft) rope, 3x carabiners and 1x double rope protector are a recommended minimum
Evaluation Instructions:
Candidate may be asked to demonstrate pull-through anchors as a separate exercise or combined with another, such as 9.11 Aid Climbing
Safety Evaluation Criteria:

Discrepancy:	• Unmarked pull line(s) • Retrieval method could damage equipment
Failure:	• Back-up or descender attached to pull line and attempted to weight • Failure to retrieve ropes

Requirement:
9.11. Aid Climbing
Sub-Requirements:
9.11.1. Candidate shall demonstrate aid climbing while maintaining two independent anchor attachment points. The candidate may be asked to demonstrate point-to-point and/or sliding aid climbing horizontally or along an incline. Candidates 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.
Interpretation:
Candidates are expected to safely aid climb using point-to-point anchors or sliding anchors, such as beam clamps. For point-to-point aid climbing, candidates must be connected to two separate anchors at all times.
Host Site Requirements Specific to Task:
Point-to-point: Horizontal span must be at least 3m (9.8ft). Anchors should be spaced no closer than 30cm (12”) and no farther apart than 1m (3.3ft) There must be at least 8 anchors to demonstrate the maneuver **Sliding:** Three (3) movable anchors should be available on a suitable structure that is at least 2m (6.6ft) long.
Evaluation Instructions:
Candidate will be asked to perform point-to-point or sliding aid. Candidate may be asked to approach or exit the aid station via a rope set or structural climbing.
Safety Evaluation Criteria:

Discrepancy:	• Fall from etriers onto lanyard
Failure:	• Connection(s) to only one anchor

Requirement:

9.12.Pick-off Casualty on Ascent

Sub-Requirements:

9.12.1. The candidate shall perform an initial scene safety survey before carrying out any rescues. Candidate will be asked to perform a pick- off rescue of an incapacitated 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.

Interpretation:

Proper connections to ventral or sternal D on casualty are expected. Casualty must have two connections within the rope access system at all times during the exercise. An 'escape' carabiner is not required between the candidate and their descender; however, if used, the 'escape' carabiner must be effective. If required by the manufacturer, extra friction must be added to the working line to accommodate a two-person load. For Level 3 candidates, this may be combined with the obstacle rescue.

Host Site Requirements Specific to Task:

Back-up device and descender effective for a two-person load

Evaluation Instructions:

Candidate will be asked to perform a pick-off rescue with the casualty in ascent mode. Candidate may be asked to approach the casualty from above or by ascending up to the casualty. Candidate may be asked to use the same rope set as the casualty or an adjacent rope set.

Safety Evaluation Criteria:

Pass:	• Candidate approaches casualty on casualty's main line from below
Discrepancy:	• 'Escape' carabiner Installed, but not used correctly • No or ineffective extra friction (if required by manufacturer) • Friction carabiner not attached to sufficiently rated component of harness • Pickoff onto chest ascender of candidate (rescuer still in ascent) • Poor casualty management
Failure:	• Back-up device ineffective for 2-person load • Cutting a casualty's attachment point

Requirement:

9.13. Rescue Hauling with Mechanical Advantage Systems

Sub-Requirements:

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. The rescuer may use the employer's standard rescue kit and additional rope. Candidates are encouraged to build their own system to the requirements of the scenario. If the candidate uses a pre-rigged system the candidate may be asked to disassemble and reassemble the kit. The candidate shall maintain a two-rope system. Safety and efficiency will be considered most important. The 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. The 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 rescuer 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.

Interpretation:

Candidates are expected to understand the concepts of mechanical advantage. Pre-rigged systems, such as mini-hauls, are permissible if the candidate can explain the applied mechanical advantage. The load may be raised from the ground or already suspended, requiring the candidate to break into a loaded line. All loads will be considered "live" for the purposes of the evaluation; two rope systems are always required (four ropes in the case of a cross-haul). The candidate may share their anchors with the load. The load should not be less than 34kg (75lbs).

Host Site Requirements Specific to Task:

Sufficient equipment for two separate hauling systems.

Evaluation Instructions:

Candidates may be asked to raise a load or a worker in the exercise. While cross-hauling is a separate line item on the technician evaluation form, it may be combined with the other hauling exercises. Candidates working together will be evaluated as a unit.

Safety Evaluation Criteria:

Discrepancy:	• Crosshaul - Internal Angle >120°
Failure:	• < 2 ropes in each direction

9.5 LEVEL III TECHNICIAN (ROPE ACCESS SUPERVISOR) REQUIREMENTS

*Section 10 of SPRAT Certification Requirement Standards

Requirement:
10.1. The candidate must provide proof of at least 500 hours of work experience as a Level II Technician or equivalent (1000 hours total).
Interpretation:
See Section on expectations for Documenting Experience

Requirement:
10.2. The candidate may be asked to demonstrate proficiency in the skills and knowledge required of a Level II Technician in addition to those specified below.
Interpretation:
As a Level III technician may supervise all other levels, a Level III candidate can be expected to be competent in all the skills evaluated during a Level I or Level II certification. An Evaluator shall choose 3 of the gray boxes in the Level II column to fulfill this requirement. Expired and Direct Entry candidates shall demonstrate all skills required of lower levels.

Requirement:
10.3. Roles and Responsibilities
Sub-Requirements:
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 the employer's rope access program.
Interpretation:
These responsibilities may be found in Section 6 of the SPRAT Safe Practices Standard. This requirement is largely evaluated through the Level III written test, except for where specific bullets within this section of the Safe Practices as they are referenced in other evaluated criteria. Candidates will be expected to participate in group exercises to the level of their desired level of certification.

Requirement:
10.4. Management and Communication
Sub-Requirements:
10.4.1. Candidate must demonstrate an ability to manage the safety of other workers and the public. The 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 the employer to provide a consistent and reliable translator). The candidate should also be familiar with using communication methods available in various field environments.
Interpretation:
This requirement is largely evaluated through the Field Oral evaluation. Effective team management and communication by Level III candidates will be evaluated throughout the entire session. Level III candidates are expected to be able to understand the abilities of other lower level candidates during the evaluation session.
Evaluation Instructions:
See 10.12 Team Leadership and Supervision
Safety Evaluation Criteria:

Pass:	• See 10.12 Team Leadership and Supervision
Discrepancy:	
Failure:	

Requirement:
10.5. Equipment Use and Inspection
Interpretation:
This requirement is largely evaluated during the Equipment Use and Inspection portion of the field oral evaluation. Proper use of equipment by candidates is observed throughout the evaluation. Examples of Discrepancies and Failures for equipment misuse may be found throughout the document (e.g., 8.7 Use of Ascenders)
Host Site Requirements Specific to Task:
See Evaluation Facility and Equipment Requirements

Requirement:
10.6. Job Safety
Sub-Requirements:
10.6.1. Candidate must be able to carry out the employer's safety management program including writing a job safety analysis.
Interpretation:
As discussed during the Job Safety Section earlier in the document, this requirement is largely evaluated during the oral portion of the evaluation. For Level I candidates, Section 8 of the Safe Practices Document serves as a basis for evaluation. Beyond the written and oral portions of the evaluations, candidates will be evaluated over their adherence to the host site's job safety analysis throughout the evaluation. Examples provided here are for the field practical skills portion, not the field oral portion of the evaluation.
Host Site Requirements Specific to Task:
None
Safety Evaluation Criteria:

Discrepancy:	• 4.3.3.1. Unlocked carabiner in safety system • 4.3.3.2. Helmet (chinstrap) unfastened (in access zone) • Dropped equipment
Failure:	• 4.3.2.1. Relying on one rope system when that system is your primary means of support • 4.3.1.3. Not capable of performing one or more of the tasks required • 4.3.1.7. No fall protection used when within 6 feet (1.8 meters) of an unprotected edge • 4.3.1.10. No helmet while working at height

Requirement:
10.7. Rigging and System Dynamics
Sub-Requirements:
10.7.1. Candidates must have an understanding of forces involved in rigging rope access systems including concepts such as angle physics, fall factors, and dynamic loading.
Interpretation:
Level III candidates are expected to have a general understanding of theory behind forces in rigging.
Host Site Requirements Specific to Task:
None
Evaluation Instructions:
Evaluator may ask candidates questions about angle physics, fall factors or dynamic loading in exercises, such as 9.9 Load-Sharing Anchors, 8.19 Shock-Absorbing Lanyards, 9.13 Rescue Hauling, or 10.15 Guidelines and Highlines
Safety Evaluation Criteria:

Discrepancy:	• Inability to articulate forces of bridle legs for load-sharing anchor with internal angle of 120°
Failure:	• No understanding of criteria stated in requirement

Requirement:
10.8. Rescue Considerations
Sub-Requirements:
10.8.1. Candidates must demonstrate strong command of rescue procedures and concepts including harness-induced suspension trauma. Candidates will be required to manage team rescue scenarios.
Interpretation:
Requirement is primarily covered in the job safety portion of the oral evaluation. Candidates should have an awareness of the theory of harness-induced suspension trauma. Suffice is to say that an unconscious casualty suspended on rope is a serious safety issue. Candidates must be able to effectively manage team rescue scenarios.

Requirement:
10.9. Knots and Hitches: In addition to the knots required of a Level II Technician, the candidate may be asked to demonstrate the proper tying and dressing of:
Sub-Requirements:
10.9.1. Load-releasing hitch (e.g. Munter Mule, Mariners)
Interpretation:
Candidates are expected to be able to tie, dress and operate a load-releasing hitch. Munter mule refers to a munter hitch secured with a mule hitch. A half hitch on a bight is acceptable in place of the mule hitch. A mule hitch or half hitch on a bight must be backed up in some fashion.
Host Site Requirements Specific to Task:
Sufficient material to tie load-releasing hitch.
Evaluation Instructions:
Candidate may be asked to demonstrate a load-releasing hitch as a separate exercise or as part of 10.10 Anchors Pre-rigged to Lower. A candidate may be asked to ascend and change-over to a load-releasing hitch and descend to the ground in a controlled manner.
Safety Evaluation Criteria:

Discrepancy:	• No back-up to half hitch on a bight or mule hitch • Improper technique used to release and use load-releasing hitch

Requirement:
10.10. Anchors Pre-rigged to Lower
Sub-Requirements:
10.10.1. Candidateshall demonstrate rigging anchors pre-rigged to lower in case of emergency.
Interpretation:
Candidates are expected to be able to rig and demonstrate the use of anchors pre-rigged to lower.
Host Site Requirements Specific to Task:
None
Evaluation Instructions:
Candidates will be asked to set up a rope system using anchors pre-rigged to lower. Candidates may be asked to demonstrate the use of the anchors pre-rigged to lower with a casualty connected to the system. Evaluators shall not specify the need for specific or multiple types of anchors pre-rigged to lower in the exercise; however, the evaluator may ask the candidate if he/she can complete the exercise using a load-releasing hitch.
Safety Evaluation Criteria:

Discrepancy:	• Device not secured beyond normal lock-off • Rope not stacked or coiled for ease of deployment
Failure:	• Rope insufficient length (<2x drop)

Requirement:

10.11. Mechanical Anchor Systems

Sub-Requirements:

10.11.1. Candidates must demonstrate an understanding of the use and limitations of mechanical anchor systems such as tripods and beam clamps.

Interpretation:

Candidates are expected to understand the following for the use and limitations of mechanical anchor systems:

Tripods (high directional anchors):

- Forces at directional anchor
- Resultant of forces inside footprint of high directional
- Hobble of legs of high directional
- Consequences of main line failure and how to maintain an effective belay

Beam clamps:

- Number of beam clamps required to work safely (3)
- Normal (perpendicular) loading of beam clamps
- Potential irregularities and tapering of beams
- Potential gaps between beams

Host Site Requirements Specific to Task:

None; helpful if beam clamps or tripods are available, but may simply be a whiteboard discussion

Evaluation Instructions:

Candidates will be expected to discuss the concepts presented in the interpretation section. A whiteboard may be used for this exercise.

Safety Evaluation Criteria:

Discrepancy:	• Inability to describe criteria listed above
Failure:	• Inability to describe **ANY** criteria listed above

Requirement:

10.12. Team Leadership and Supervision

Sub-Requirements:

10.12.1. The candidate will be given a rescue or work task to complete with the assistance of one or more fellow candidates. Candidates will be evaluated on their ability to effectively communicate, delegate, and safely manage the completion of the task.

Interpretation:

Candidates are expected to be able to efficiently and safety manage a rescue or work task. Candidates will be expected to direct other candidates to complete a task, not rig the entire scenario. A work task shall not become a rescue, but candidates will be expected to plan for rescue. Criteria to be evaluated during through this requirement are as follows:

Planning:

- Use of other candidates' skill sets. Assumed skill sets correspond to desired levels of other candidates.
- Equipment requirements
- Efficacy of designed solution
- Use of briefing aids
- Rescue plan for work scenarios

Execution:

- Efficiency in completion
- Management and communication
- Delegation of responsibilities
- Technical knowledge
- Team work

Host Site Requirements Specific to Task:

See site requirements for other maneuvers and operations in the evaluation session.

Evaluation Instructions:

Candidates will be provided up to 15 minutes of planning time to design a solution to the scenario. Lowering, Hauling, Highlines or Guidelines may be employed to complete the exercise. While the candidate being evaluated for this requirement will have overall responsibility for the scenario, the evaluator may selectively limit this candidate's supervision so other candidates may be evaluated on their individual performance.

Safety Evaluation Criteria:

Discrepancy:	• See Lowering, Hauling, Highlines or Guidelines • 4.3.3.3 Task is not completed in a timely manner • Improper addressing of potential rescues in planning portion of work scenario
Failure:	• See Lowering, Hauling, Highlines or Guidelines • 4.3.2.4 Unacceptably slow completion of task • Not addressing potential rescues in planning portion of work scenario.

Requirement:

10.13. Pick-off Rescue of Casualty while Negotiating Obstacles

Sub-Requirements:

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

Interpretation:

A candidate is expected to be able to complete any of the rescues listed.
The skill is outlined in two parts:

1) The first part is to rescue the patient from either their ascenders or descender.
2) The second part is to then descend with the patient through one of the obstacles listed.

As currently written, evaluators may not ask candidate to rescue casualty from the middle of an obstacle (e.g., belly of a long rebelay). Casualty should be a minimum of 1m (3ft) above obstacle. Candidate cannot circumvent obstacle. For example, a candidate may not bring extra ropes to pass knots or have anchors pre-rigged to lower. This proscription does not preclude using the tails of ropes to assist in passing a knot.

Dragging ropes across the climbing area during the individual performance a Long Rebelay (8.14) is a discrepancy so that climbing ropes are still available to facilitate rescue. A discrepancy will **NOT** be issued for dragging the ropes across the area during a rescue through a long rebelay.

Host Site Requirements Specific to Task:

None

Evaluation Instructions:

Evaluator shall assign a candidate to complete **ONE** rescue through an obstacle. This rescue shall not be combined with 10.14 Rescue from Aid Traverse.

Safety Evaluation Criteria:

Pass:	• Extra friction removed while descenders share load
Discrepancy:	• Descent onto knot • Transfer without casualty's main connection to transfer descender

Requirement:
10.14. Rescue from Aid Traverse
Sub-Requirements:
10.14.1. Candidate shall demonstrate rescuing an incapacitated worker 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.
Interpretation:
While cross-hauling or a guideline may be used to transport the casualty, all candidates must complete the rescue individually. This requirement is not a team exercise.
Host Site Requirements Specific to Task:
None
Evaluation Instructions:
Candidate will be asked to perform a rescue of a casualty on an aid traverse and designate the location to bring the casualty to the ground. While a rope-to-rope transfer may successfully complete this task, it will not count as the obstacle rescue stated in 10.13 Pick-Off Rescue of Casualty while Negotiating an Obstacle.
Safety Evaluation Criteria:

Pass:	
Discrepancy:	• See examples in 10.13 Pick-Off Rescue of Casualty while Negotiating an Obstacle.
Failure:	

Requirement:
10.15. Guidelines and Highlines
Sub-Requirements:
10.15.1. Candidate shall demonstrate transporting a load along an angled guideline or a horizontal highline. Candidates 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.
Interpretation:
For the purposes of the evaluation, a highline is a horizontal system and a guideline is an angled (≥20°) system. Consequences of failure within any part of the system must be considered in rigging. A single tension line is acceptable if the control lines provide an effective back-up in the event of failure of the tension line system or rigging. Two connections from the load are required to the tension line(s). Tension lines should be rigged above control lines.
Host Site Requirements Specific to Task:
Sufficient equipment to rig 6 ropes (2x cross-haul + 2x tension lines)
Evaluation Instructions:
Candidates may be asked to complete skill individually or as a team.
Safety Evaluation Criteria:

Discrepancy:	• Excessive tensioning of system for scenario.
Failure:	• All control lines go to carriage – 1 connection to carriage from load • Single upper control line in guideline scenario.

Appendix A: Equipment Criteria to Supplement Equipment Use and Inspection Oral Evaluation

This appendix provides criteria for the Equipment Use and Inspection portion of the oral evaluation. The criteria presented are not item specific. It is expected that candidates address these criteria with the equipment they will be using during the evaluation.

Contents:

Equipment:	**Helmet**	Appendix A Contents
Primary functions and features:		
□ Protects user from impact from above		
□ May provide limited side impact protection		
Proper Handling and Use:		
□ Must comply with industry standards		
□ Designed without a visor brim for better vision and mobility		
□ Integrated chin strap that must be fastened when working at height		
□ Fitted properly on head		
□ Do not place anything between suspension system and shell		
□ Avoid chemicals, adhesives (excessive stickers)		
Inspect for Function:		
□ Check adjustment controls		
□ Check chin strap buckle		
□ Webbing attachments secure on helmet		
Inspect for Wear:		
□ Cracks or chips on helmet		
□ Discoloration from chemical or UV exposure		
□ Webbing		
o Glazing		
o Cuts or fraying		
o UV, chemical exposure		
Criteria for Evaluation (Total: 16 Line Items):		
□ Level 1: 8		
□ Level 2: 10		
□ Level 3: 13		

Equipment:	**Harness**	Appendix A Contents

Primary functions and features:

- □ Multi-purpose, not a basic fall arrest harness
- □ Designed for suspension as well as fall arrest
- □ Proper names and uses for all D rings
  - □ Dorsal for back for fall protection and fall restraint
  - □ Sternal for chest for fall arrest lanyards and back-up devices
  - □ Ventral for waist for positioning devices such as the descender
  - □ Lateral for side for positioning used only in pairs/single as a redirect

Proper Handling and Use:

- □ Correct size
- □ Fitted and adjusted correctly
  - o Snug at waist
  - o Leg loops tightened
  - o Dorsal D in correct location
  - o Snug on chest

Inspect for Function:

- □ Metal components:
  - o Proper latching of buckles
  - o Hard links tightened
- □ Webbing:
  - o No twists

Inspect for Wear:

- □ Metal connections:
  - o Excessive corrosion
  - o Deformation
- □ Webbing
  - o Connection points with metal connections
  - o Critical stitching (potential contrasting color)
  - o Glazing
  - o Cuts or fraying
  - o UV, chemical exposure

Criteria for Evaluation (Total: 22 Line Items):

- □ Level 1: 11
- □ Level 2: 14
- □ Level 3: 18

Equipment:	**Carabiner**	Appendix A Contents

Primary functions and features:

- □ Connect components in rope access system
- □ Nomenclature of parts:
  - □ Gate
  - □ Nose
  - □ Spine

Proper Handling and Use:

- □ Locking and may be auto-lock or screw gate
- □ Screw gates should be properly oriented to prevent unscrewing by gravity and shaking and must be locked
- □ 2 stage and 3 stage carabiners
- □ Commonly made out of steel and aluminum
- □ Many shapes, including the most common, which are D, oval and pear (HMS)
- □ Must have a MBS of 5,000 lbf. or 22.2 kN
- □ Designed to be loaded along the major axis which places the load on the spine
- □ Avoid Improper Loading:
  - o Cross loading
  - o Side loading
  - o Open gate
  - o Nose hook
  - o Trigonal / over-loading
  - o Torsional (twist potential when directly linked to other hard goods)

Inspect for Function:

- □ Function is inspected by operating the gate and any locking features

Inspect for Wear:

- □ Wear is inspected by looking and feeling for nicks and abrasion especially where the rope runs
- □ Excessive corrosion of steel carabiners

Criteria for Evaluation (Total: 20 Line Items):

- □ Level 1: 10
- □ Level 2: 15
- □ Level 3: 18

Equipment:	**Back-up Device**	Appendix A Contents

Primary functions and features:

- □ Designed to arrest fall if primary means of support fails (e.g., main line failure)
- □ Describe how device functions to arrest fall and minimize impact force by decelerating the fall

Proper Handling and Use:

- □ Must not be defeated by improper handling or placement
- □ Minimize fall distance / fall factor – describe acceptable fall factor
- □ Minimize or eliminate slack in rope above back-up device
- □ May be used for providing a self or attended belay
- □ Must be compatible for application (e.g., rated for 2-persons in a rescue)
- □ Used with compatible components (e.g., shock pack or lanyard length)
- □ Connected to sternal, dorsal or ventral D (manufacturer dependent)
- □ Proper orientation on rope
- □ Use with correct rope diameter
- □ Minimize or eliminate drop hazard

Inspect for Function:

- □ Check all moving and spring loaded parts

Inspect for Wear:

- □ Deformities
- □ Check areas of contact with rope or connectors

Criteria for Evaluation (Total: 15 Line Items):

- □ Level 1: 8
- □ Level 2: 10
- □ Level 3: 11

Equipment:	**Descender**	Appendix A Contents
Primary functions and features:		
□ Designed to control descent		
□ Can ascend short distances		
□ Describe main features of device (e.g., I'D: handle position, anti-error catch, horizontal movement button)		
Proper Handling and Use:		
□ Use with proper diameter rope		
□ Loaded properly on rope		
□ Attached at ventral D on harness		
□ Describe how to lock off when hand is not on control rope (if required by manufacturer)		
□ Extra friction required for a 2 person load (if required by manufacturer)		
□ Other potential uses (e.g., belay, progress capture in haul system, load limiter in tension line)		
□ Avoid side loading of device		
Inspect for Function:		
□ Check all moving parts		
□ Ensure side plate closes properly		
Inspect for Wear:		
□ Deformities		
□ Rope channel		
□ Wear indicator?		
□ Mushrooming at connection point		
Criteria for Evaluation (Total: 16 Line Items):		
□ Level 1: 8		
□ Level 2: 10		
□ Level 3: 13		

Equipment:	**Ascender (e.g., Chest and Hand Ascenders)**	Appendix A Contents
Primary functions and features:		
□ Designed for ascending and static rope grab applications		
□ Can descend short distances		
□ Hand ascenders may be used as rope grabs in hauling systems		
Proper Handling and Use:		
□ Should never be used for fall arrest applications		
□ Minimize potential shock load – can damage rope		
□ Use with proper rope diameter		
□ Designed to be used in pairs when moving on rope		
□ Chest ascender may be used alone when worker is in static position and rope is not tensioned below ascender		
□ Should be handled so ascender is not inadvertently removed from rope		
□ Avoid side-loading on edge		
Inspect for Function:		
□ Check moving and spring loaded parts		
□ Inspect presence of rivet		
Inspect for Wear:		
□ Ascender body deformation		
□ Flaring of rope channel		
□ Mushrooming at connection area		
□ Sharp Edges		
□ Teeth in good condition		
Criteria for Evaluation (Total: 17 Line Items):		
□ Level 1: 9		
□ Level 2: 11		
□ Level 3: 14		

Equipment:	**Lanyard / Rope**	Appendix A Contents

Primary functions and features:

- □ Made of synthetic material – commonly nylon and/or polyester
- □ Kernmantle construction - Outer sheath for protection, inner core that provides strength and elongation characteristics
- □ Elongation
  - o Static: elongation of 6% or less at 10% of minimum breaking strength.
  - o Low Stretch: elongation of 6% to 10% at 10% of minimum breaking strength.
  - o Dynamic: designed to absorb the energy of a fall by extending in length.

Proper Handling and Use:

- □ Length compatible with application (e.g., proper length for back-up device or positioning)
- □ May have knots or sewn terminations
- □ Knots reduce strength approximately 30-40% from MBS
- □ Dynamic lanyard must have MBS of 5,000 lbf. or 22.2 kN
- □ Static and low stretch ropes must be compliant with Cordage Institute 1801
- □ Use proper rope or edge protection when applicable

Inspect for Function:

- o N/A

Inspect for Wear:

- □ Tactile and visual inspection:
  - o UV or chemical exposure
  - o Glazing
  - o Hour-glassing
  - o Pliability
  - o Core exposure

Criteria for Evaluation (Total: 16 Line Items):

- □ Level 1: 8
- □ Level 2: 10
- □ Level 3: 13

Equipment:	**Pulley**	Appendix A Contents

Primary functions and features:

- □ Redirects rope
- □ Minimizes friction

Proper Handling and Use:

- □ Use with proper type and diameter of rope
- □ Use with compatible carabiner (e.g., oval that doesn't compress attachment tabs)
- □ Be aware of directional forces (potential force multiplier) – don't overload
- □ If present, close side-plate completely
- □ If present, ensure attachment tabs are captured by pulley
- □ Maintain proper orientation of rope through pulley (not running over side-plate)
- □ Both pulleys often must be used for safe application of a double pulley

Inspect for Function:

- □ Pulley turns freely
- □ If present, side-plate moves freely and can be locked

Inspect for Wear:

- □ Deformity of attachment tabs
- □ Deformity of pulley axle or bearing
- □ Sharp edges
- □ Mushrooming at attachment point(s)
- □ Grit in pulley axle or bearing

Criteria for Evaluation (Total: 16 Line Items):

- □ Level 1: 8
- □ Level 2: 10
- □ Level 3: 13

Equipment:	**Shock Absorbing Lanyards**	Appendix A Contents

Primary functions and features:

- □ Designed to arrest a fall if the primary means of support fail

Proper Handling and Use:

- □ Must be connected to the dorsal or sternal D rings on the harness
- □ Must use self closing, self locking connector to harness (U.S. standard)
- □ Shock absorber limits maximum and average arrest force
- □ Must account for required clearance
  - o Fall distance
  - o Height of individual
  - o Stopping distance (Shock pack extension length)
  - o Safety buffer
- □ Maintain potential fall distance below rating of device
- □ Consider lanyard path (above arms, not around neck)
- □ Consider attachment point (e.g., strength of anchorage, avoid side-loading of connector)
- □ Don't defeat shock path through improper connection of connector (connection to harness with one leg of Y Lanyard)

Inspect for Function:

- □ Ensure all moving parts operate freely
- □ Ensure compatible components

Inspect for Wear:

- □ Metal components
  - o Wear is inspected by looking and feeling for nicks and abrasion
  - o Excessive corrosion of steel components
- □ Tactile and visual Inspection of lanyard material:
  - o UV or chemical exposure
  - o Glazing
  - o Hour-glassing
  - o Pliability
  - o Core exposure

Criteria for Evaluation (Total: 21 Line Items):

- □ Level 1: 11
- □ Level 2: 14
- □ Level 3: 17

Appendix B: Rope Access Work Plan and Job Safety Analysis Components to Supplement Job Safety Oral Evaluation

Site / Client Information
- Location
- Site contact
- Security clearances
- Site specific PPE requirements
- Site specific pre work safety training

Site Safety Plan
- Assembly/muster point
- Evacuation plan and alarms
- Site safety officer contact
- Site EMS protocol/dispatch contact
- Site rules and restrictions

Permits
- Required (by client, local government or OSHA)?
- Conflicting activities with operators holding other permits?
- Special training required for permit controlled activities?
- Proper documentation and posting

Lockout-Tagout
- Site LOTO requirements and orientation
- Contact of site person in charge of LOTO
- LOTO equipment required or provided: locks, tags etc.

Work Plan
- Scope of work to be performed (inspection, repair, etc)
- Dates/duration of expected work
- Method/overview/rigging
- Detailed description of client expectations
- Photos, blueprints and diagrams

Work Zones
- Identify zones in advance from images and client
- Material to adequately mark zones
- Additional personnel needed to control zones?
- Permission needed to restrict or limit access?
- Revise as necessary once on site

Anchors
- Anchor strengths and locations
- Method of anchoring (slings, bolts, beam clamps, etc)
- Sufficient Anchorage Material?
- Anchors rigged for retrieval? (verify rope lengths)
- Client permission required for desired anchorages?

First Aid Kit
- Location of team first aid kit (s)
- Inspected for contents (check list) prior to work
- Special needs and training (epi-pen, etc.)
- Client resources (first aid kits, AEDs on site and their location)

Emergency Medical Services
- Nearest hospital
- On site facilities if available
- EMS contact (911 or dispatch?)
- Specific site coordinates/location to inform EMS
- Life flight pre-contact/landing and pick up protocol

Post Job Debrief
- Daily safety talks and documented post job debrief
- What went well and what could be improved for efficiency
- Near misses and specific measures to improve safety
- Practical travel information (lodging, dining, transportation)

Rescue Plan
- Method of rescue with diagrams or supporting information
- Rescue leader, alternate and team member responsibilities
- Sufficient dedicated rescue equipment (inspected)
- Specialized rescue equipment (multi-pod, litter, lift kits, etc)
- Pre job rescue/equipment training and practice

Communication
- Methods (direct verbal, radio, hand signals, cell phone, etc.)
- Agreed upon language (for multi-national teams)
- Radio protocol (channel verified, charged, etc.)
- Method of communicating with client and EMS from field

Personnel List
- Name and contact information
- Emergency contact and relation
- Rope access qualifications
- Trade qualifications
- Off site project management

Special Training and Qualifications
- Rope access technician levels appropriate for the job?
- Trade skills and certifications current and appropriate?
- Fall arrest certification requirements (OSHA) if necessary
- First aid and CPR current as required
- Refresher training necessary prior to work?

Technician Personal Equipment
- Appropriate equipment for job scope
- Specific equipment that is needed per technician
- Inspection of equipment prior to job
- Training required for unfamiliar equipment?

Personal Protective Equipment (PPE)
- Job specific requirements for rope access work
- Site specific requirements from client
- MSDS (material safety data sheets) available
- Inspection prior to job

Team Equipment
- determine the right type of equipment for the job
- enough equipment to do the job efficiently and safely
- is training required for unfamiliar equipment
- pre job transportation logistics
- inspection prior to job

Tools
- Correct tools for the work, inspected and tested
- Current required trade certifications and training for tools
- Tool specific required PPE and tool requirements
- Method of attachment (lanyards, separate ropes, etc.)
- Power source and client permission for use

Hazard Analysis / Risk Mitigation
- Identify hazards
- Determine who is at risk and how
- Evaluate the hazards and risks and decide on precautions
- Take measures to eliminate the hazard
- Take measures to mitigate risk(s) to an acceptable level
- Review the risks and revise measures as needed during the job

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Appendix C: Hazards, Associated Risks and Controls to Supplement Job Safety Oral Evaluation

Hazard	Risk(s)	Control(s)
Working at Height	• Falling	• Identify Access Zone • Fall protection • Rope Access
Human Error	• Rigging errors • Skipped procedural steps	• Use 2-rope System • Use independent anchors • Buddy checks • Regular breaks
Communication Difficulty	• Safety warnings ineffective • Miscommunication	• Agree on communication signals • Multiple means of communication
Dropped Tools	• Damage to individuals, equipment or property	• Identify and mark hazard zone • PPE • Appropriate securing methods
Heavy Tooling / Materials	• Damage to individuals, equipment or property	• Identify and mark hazard zone • PPE • Appropriate securing methods • Independent anchorage and support
Suspended Loads	• Damage to individuals, equipment or property	• Identify and mark hazard zone • PPE • Appropriate securing methods • Independent anchorage and support
Use of specialized tooling	• Injury to self or others • Damage to rope access system	• Proper training • PPE • Appropriate securing methods
Tooling by-products (slag, dust)	• Injury to self or others • Damage to rope access system	• Proper equipment (e.g., rope material) • PPE
Machinery	• Injury from machinery (pinching, crushing)	• Proper LOTO
Electrical Systems	• Electrocution	• Proper LOTO
Sharp, Abrasive or Hot Surfaces	• Injury to self or others • Damage to rope access system	• Appropriate rope/edge protection • Rope redirection • PPE • Proper LOTO
Low Lighting	• Increased exposure to work environment • Increased chance of dropped objects	• Provide additional lighting • Headlamps, back-up batteries
Confined Space	• Low oxygen, flammable and/or toxic environment • Converging Walls • Increased Rescue Difficulty	• PPE • Air monitoring • Forced air ventilation • Rig for retrieval
High Noise area	• Temporary or permanent hearing damage • Increased communication difficulty	• PPE • Multiple means of communication
Vehicular Traffic	• Injury to self or others • Damage to rope access system • Increased communication difficulty	• Identify and mark hazard zone • PPE (e.g., high-visibility vests)
General Public	• *Highly location dependent*	• Identify and mark hazard zone • Control entry to hazard and access zones
Chemicals	• *Highly chemical dependent*	• Proper PPE • MSDS
Sun / Heat	• Sunburn • Dehydration • Heat exhaustion / heat stroke	• Ample water • Sufficient breaks • PPE
Cold Temperatures	• Loss of dexterity • Hypothermia • Frostbite	• Appropriate clothing • Warm liquids available
Precipitation (Snow, Rain, Ice)	• Increased environmental exposure • Decreased friction on rope systems • Increased electrical exposure	• Appropriate clothing • Proper communication of conditions • GFCI on electrical devices
Lightning	• Electrocution	• Lightning detection systems
Wildlife (Insects, Venomous Animals)	• Injury or incapacitation • Allergic reactions	• PPE • Personnel allergies discussed
Slippery Surfaces	• Increased risk of falling	• Clean and organized work area • Proper footwear
Rock Fall	• Injury to self or others • Damage to rope access system	• Identify and mark hazard zone • Scaling prior to beginning work • Loose materials secured • Rope management
Wind	• Increased environmental exposure • Increased size of hazard zone	• Identify and mark hazard zone • Multiple means of communication

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