APPENDIX I
Rappel/Fast Rope Operations

I-1. Rappelling. Because of the inherited danger of rappelling and fast rope operations, a Risk Assessment will be performed by using unit and signed by commander IAW TC 21-24. This will be provided to Range Control and post Safety Officer for review prior to use of the facility.

I-2. Training Site.

1. No vehicles are allowed through the gates with the exception of emergency vehicles during the process of evacuation.

2. Smoking is not allowed in or around the tower at any time.

3. The sandy area around the base of the tower is a controlled area and only belay personnel and rappellers are allowed in that area.

I-3. Rappel Master. The proponent for accreditation, evaluation and information for Army Rappel Master courses is the G-3, Directorate of Operations and Training, U.S. Army Infantry School, ATTN: ATSH-TDD, Fort Benning, Georgia 31905-5593.

1. Duties and Responsibilities: The rappel master is responsible for the safety of rappellers. He ensures that all equipment (installation, unit and personal property) is serviceable. He personally supervises the rappelling operation.

2. Qualifications. Rappel master qualification is awarded only after the successful completion of Training and Doctrine Command (TRADOC) accredited Rappel Master Course to include the following subjects:

    a) Duties and responsibilities of a rappel master.

    b) Safety standing operating procedures (SOP), regulations and references.

    c) Construction of a deployment bag.

    d) Conduct of an equipment rappel off the rappel tower.

    e) Conduct of a lock-in.

    f) Talking a rappeller through completion of a rappel.

    g) Conduct of ground training.

    h) Inspecting for proper hookups.

i) Inspecting and maintaining equipment.

j) Inspecting and maintaining snap links.

k) Inspecting and maintaining rappelling gloves.

l) Inspecting and maintaining rappel ropes.

m) Identifying the rappel capabilities of aircraft used.

n) Controlling rappels from UH-1H or UH-60 aircraft.

o) Tying knots (square, bowline, half hitch, Prusik), safety lines and rappel seats (Swiss seat, Australian seat).

p) Inspecting a rappel seat.

q) Aircraft rigging for rappelling operations.

r) Aircraft command and control.

3. Proficiency Maintenance. To remain current, rappel masters must execute their duties in a tactical or training exercise once every six months. If rappel masters do not execute their duties once every six months, they must take a refresher class taught by a current rappel master. The refresher class includes subjects listed in the rappel master qualifications section at paragraph J-3.b.

4. **Rappel Master On-Site Training Requirements.** Units may conduct ground training and wall-side tower rappelling without a school-trained rappel master as long as the following is met:

- A fully qualified rappel safety officer (RSO) is on site to assume the duties and responsibilities of the rappel master. The RSO must be certified and appointed by the commander.

I-4. Rappel Safety Officer. The RSO serves as the OIC during all rappel operations. Holding the rank of SFC or above, he is trained on applicable rappel master tasks and is certified by his commander to serve in the position. Extensive training in rappel operations and risk management, or graduation from one of the following courses are RSO requirements**:** Rappel Master Course; Air-assault Course, Ranger Course, Basic Military Mountaineering Course (summer or winter).

1. The RSO is responsible for the overall safety of all rappellers and ensures that all safety precautions are followed.

2. The RSO briefs VIPs, visitors and inspecting authorities on training, safety requirements and the layout of training areas.

I-5. Rappel Lane NCO.

1. Duties and Responsibilities. Safety is the rappel lane NCOs number one priority. The rappel lane NCO:

    a) Ensures proper safety procedures are followed.

    b) Ensures proper hookup once directed to a rope station.

    c) Issues commands and maintains eye contact with the rappeller at all times.

2. Qualifications. The rappel lane NCO holds the rank of corporal (CPL/E-4) or above, is air assault or ranger qualified and is selected by the commander. Each tower rappel lane must have a qualified rappel lane NCO.

3. Training. The rappel lane NCO must also be trained on the following subjects:

    a) Responsibilities and safety requirements.

    b) Inspection and maintenance of equipment.

    c) Identification of satisfactory anchor points.

    d) Identification of safe and unsafe hookups.

    e) Establishment of a rappel joint.

    f) Inspection of a rappel seat.

    g) Coaching techniques.

    h) Rappelling procedures.

    i) Emergency procedures.

    j) Belay control procedures.

4. Participation. The rappel line NCO must participate in at least seven rappel operations; three as a rappeller, two as an assistant rappel lane NCO, and two performing the duties of a rappel lane NCO under the supervision of a qualified rappel master.

5. Proficiency Maintenance. If a rappel lane NCO has not conducted his duties within the last six months, he must complete the training listed in paragraph J-3.c. Under the supervision of a current rappel master.

I-6. Rappeller. Rappel qualification requirements apply to the individual rappeller. Participants in tower rappel training must complete the following listed requirements under the supervision of a rappel master. The unit commander ensures that personnel successfully complete these requirements before beginning aircraft rappel training:

1. Identify all rappelling equipment.

2. Demonstrate the construction and attachment of the rappel seat and the rappel rope to the seat.

3. Identify unsafe attachments, equipment, rope connections and seat construction.

4. Define terms used in rappelling operations.

5. Identify knots used in rappel operations.

6. Understand and demonstrate rappel commands.

7. Demonstrate rappelling positions.

8. Demonstrate belaying procedures.

9. Exhibit satisfactory performance from a rappel tower of at least 34 feet in height (two rappels with equipment and weapon, two without equipment and weapon). Two rappels are conducted from the free side of the tower (no wall).

10. Demonstrate the ability to lock-in.

I-7. Belayer. Belay requirements are a subtask of basic rappel requirements. Soldiers must know how to belay before conducting rappelling training. The belayer:

1. Assumes a position at the base of the lane, about one pace away from the tower area.

2. Ensures that the rappel ropes are even with the ground during tower rappels.

3. Loosely holds the rappel rope with both hands so as not to interfere with the rappeller, but still able to stop the rappeller should he fall.

4. Immediately stops the rappeller by pulling downwards on the rappel ropes if the rappeller shouts, “falling” or loses control of his brake hand during descent.

5. Does not wear gloves to ensure a firm grip on the rapelling rope.

6. Watches the rapeller at all times and maintains constant voice or visual contact.

7. Wears a helmet to prevent injuries from falling debris.

I-8. Belay Safety. The belay safety must be air assault or ranger qualified. Ensures belay personnel are performing their duties properly. Rappel training requires one belay safety for each two-rappel station.

I-9. Safety. The following personnel and equipment must be present during static tower training:

1. Two military rappel ropes for each rappel station.

2. One safety officer.

3. One rappel master for each rappel site.

4. One rappel lane NCO per rappel station.

5. One medic with medical kit and backboard.

6. One safety or medical evacuation driver with vehicle.

7. One belayer for each rope station. Rappellers alternate stations.

8. One belay safety for each two-rappel stations (four ropes).

I-10. Safety Briefing. As in all training, a safety briefing precedes rappel operations. The rappel master briefs all personnel on safety, to include the following instructions:

1. Each rappeller ensures loose clothing and equipment is secured.

2. Rappel seats are tied by the soldier and inspected by the rappel master before climbing the tower. Rappel seats are removed upon completion of every rappel retied and reinspected by a rappel master or rappel lane NCO before subsequent rappels.

3. Rappellers climb the tower only when directed by the rappel master or rappel lane NCO.

4. Rappellers stay in the center of the tower until instructed to move to a rappel point.

5. No more than three personnel are behind each rappelling point.

6. If using a troop ladder, only three soldiers are on the ladder at one time. Soldiers do not climb the ladder until told to do so by a rappel master.

7. All rappel masters, rappel lane NCOs, instructors and anyone else standing near the edge of the top of the tower, must wear a restraining strap or safety rope. The strap or rope must be attached to an anchor point.

8. No one should lean or sit on the railings or banisters of the tower.

9. No one is allowed within three feet of the edge of the tower without being secured.

10. When attaching the rappel rope to the snap link, rappellers will pull the slack towards the anchor point. The rappel master or rappel land NCO will also physically check each hookup.

11. All personnel weighing more than 200 pounds will conduct a standard hookup rappel to determine if they require a friction hookup. A friction hookup is created by placing an additional two ropes in the gate of the snap link (for a total of six ropes in the snap link).

12. Combat equipment is positioned on the rappeller so that it does not interfere with the brake hand. The weapon must be slung diagonally across the back with the muzzle pointing down and on the opposite side of the brake hand.

13. Heavy duty gloves are required for all rappel training.

14. Kevlar helmets with chinstraps fastened are worn during tower rappel training.

15. While on the tower, the rappeller maintains eye contact with the rappel master or rappel lane NCO and receives all commands from them.

16. The rappeller ensures that he has a belayer on his rope.

17. The belayer does not wear gloves and keeps both hands on the rope at all times. He also faces the rappeller at all times.

18. All tower rappelling is performed with a double strand of rope.

19. No running is allowed on the tower.

20. No smoking or eating is allowed near the tower.

21. All participants who are unable to rappel, lack confidence, or refuse to rappel are reported to the rappel master or OIC. These participants are immediately removed from the training area.

22. The RSO and rappel master must be aware of overconfidence and carelessness of some rappellers. The rappel master ensures all personnel are tower qualified before beginning aircraft rappel training.

I-11. Tower Safety and Preparation. The rappel master is in charge of the tower. He conducts a visual and physical inspection of every item of equipment, to include the structural lumber and timber, the ladder, the platform floor and all anchor points.

1. The static tower will not be used during thunderstorms or excessively high winds. If ice is present or if the platform is slick from rain, rappelling will be delayed until conditions are safe.

2. All rope stations are rigged with two anchor points. The first anchor point is a middle-of-the-rope knot and the second is an end-of-the-rope anchor knot. The rappel master removes all the slack between the knots to create equal tension on the anchor points. He ensures that no less than 10 feet of rope is on the ground during static rappelling.

I-12. Rappeller Preparation. Before conducting a rappel, each rappeller must prepare their individual clothing and equipment:

1. Secure shirttails, loose clothing, equipment, straps and long hair.

2. Wear a helmet during rappelling. Properly fasten all straps and ensure their helmet is in serviceable condition.

3. Wear heavy leather workmen's gloves.

4. Wear identification tags.

FAST ROPE INSERTION

I-13. Guidance for Commanders. Units that have HQDA approval to perform fast rope insertion/extraction system (FRIES) operations are authorized to conduct initial FRIES qualification and FRIES master (FRM) qualification training. Training requirements are established in USASOC Reg 350-6 and applicable SOAR policies.

I-14. Training Prerequisites. Before allowing soldiers to participate in FRIES training and operations, the unit commander must make sure the soldiers are physically fit. Minimum screening standards that apply to each training participant include:

1. Having passed the Army Physical Fitness Test within the past six months.

2. Having passed a medical examination within the past two years.

3. Being free of any injury or physical condition that could cause a potential safety hazard during FRIES training.

4. Demonstration of ability to perform controlled descent from a height of 15 feet while carrying a 40-pound load (not including the basic duty uniform and combat boots).

5. Demonstration of ability to hold a static position on a FRIES rope for 20 seconds using hands and feet to lock-in while carrying a 40-pound load.

NOTE: The peacetime maximum soldier load will not exceed 50 pounds. This includes helmet, weapon, vest, web gear and rucksack. Rucksack weight will not exceed 35 pounds.

I-15. Personal Equipment Required. The minimum personal equipment required for FRIES training and operations includes:

1. Heavy leather gloves.

2. A helmet with a chinstrap.

3. Protective goggles.

4. A long-sleeve shirt or jacket, long pants and boots.

5. Hearing protection and identification tags for helicopter operations.

I-16. Initial FRIES Qualification Training. Before participating in fast rope operations, personnel are briefed on the FRIES and its purpose, capabilities and limitations. The briefing also covers the duties, responsibilities and safety of FRIES master (FRM), the assistant FRIES master (AFRM) and any ground assistants. Once the FRIES briefing is conducted, the remainder of the initial training is hands-on practice of the proper FRIES operational techniques.

1. Individuals are shown the proper techniques for boarding the aircraft, moving to the door, grasping and descending, locking-in and clearing the rope.

2. After the demonstration, all ropers participate in a practice exercise in which they properly perform the following tasks using a tower and subsequently, an aircraft:

3. All ropers must demonstrate a minimum of six properly executed FRIES descents (three without equipment and three with equipment).

4. At least one successful lock-in.

5. Perform FRIES descent and lock-in from a tower at the 34-foot level.

6. Training should be progressive, starting from a tower at the 34-foot level without equipment and then with equipment.

7. All ropers must complete a successful lock-in at this level. Ropers will not progress above the 34-foot level until after demonstrating the ability to stop descent, lock-in and hold a stationary position for 20 seconds with equipment.

I-17. FRIES Proficiency Sustainment Training. Commanders must make sure soldiers participating in FRIES operations receive sustainment training on equipment and procedures within 24 hours before the FRIES operation. Ropers who do not attend FRIES sustainment training will not be allowed to participate in FRIES operations. As a minimum, training will include a review of the following:

1. Arm and hand signals.

2. Individual equipment riggings.

3. Aircraft familiarization.

4. Safety procedures.

5. Any rehearsals the FRM or commander deems necessary.

I-18. Selection and Qualification of FRIES Masters. Selection and qualification of FRIES masters (FRMs) is a unit prerogative. Units will maintain records of qualification and proficiency. These records will accompany soldiers to new units when a permanent change of station occurs.

I-19. FRIES Master Training and Certification. During FRM training and certification, FRM candidates must participate in three FRIES helicopter operations (twice observing another FRM and once executing FRM duties under observation of a current FRM) and be certified by either the parent unit or an authorized school. FRMs must be proficient in FRIES operations and must demonstrate proficiency in the following:

1. Inspecting, preparing and rigging all FRIES gear.

2. Inspecting and preparing aircraft for FRIES operations.

3. Controlling and coordinating actions of AFRMs, safeties and ropers.

4. Preparing and conducting both insertion and extraction operations.

5. Conducting troop and pilot briefings.

6. Giving arm and hand signals.

7. Giving time warnings and associated commands.

8. Deploying and retrieving FRIES ropes.

9. Rigging and lowering equipment.

I-20. FRIES Master Refresher Training. Units will conduct refresher training to maintain acquired skills. FRMs who have not participated in FRIES operations during the past six months will receive refresher training by a current FRM and serve as an AFRM before performing FRM duties. Refresher training for ropers consists of an FRM briefing and participation in FRIES training.

I-21. Key Personnel Duties and Responsibilities. The following personnel duties and responsibilities provide baseline requirements for the safe conduct of FRIES operations. Unit standing operating procedures (SOPs) may increase, but will not reduce training safety requirements.

1. FRIES Training Officer: Units that conduct FRIES training appoint a training officer-in-charge (OIC) or a noncommissioned officer-in-charge (NCOIC) to manage the training. The OIC is responsible for planning and coordinating various aspects of training to include:

    a) Coordinating all support activities such as procuring FRIES equipment, aircraft, training areas, medical support and communication.

    b) Assigning qualified personnel to perform FRM, AFRM, ground safety and medic duties.

    c) Adhering to procedures for planning, preparing and executing the operation IAW this appendix, the USASOC Reg 350-6 and the participating units' SOPs.

    d) Ensuring the FRMs, AFRMs, pilots-in-charge (PICs), aircrews, safeties and medics are briefed on the operation.

    e) Ensuring a medic, an aid bag, a backboard and a dedicated vehicle and driver are on-site during all training.

2. FRIES Master: Units conducting FRIES operations will designate one overall FRM to organize, coordinate and supervise the activities of the day and AFRMs as needed. AFRMs are additional FRM-qualified soldiers who assist the primary FRM. An AFRM will be designated for each roping point. AFRMs are responsible for all preparation, inspection and command and control of all roping activities on their points. FRMs must also:

    a) Ensure all FRIES roping personnel, including FRMs, AFRMs and safeties are qualified and current and understand the proper roping procedures for FRIES operations.

    b) Perform safety and serviceability checks on all FRIES equipment and rigging.

c) Ensure the attachment bar or points are serviceable and free of any defects or contamination and that quick-release mechanisms and safety pins are present, serviceable and operate correctly.

d) Inspect the rope to make sure it has no contamination, damage or defects that could make it unsafe.

e) Check the rope to make sure it is the correct type and length for the operation (smooth rope for infiltration or looped for exfiltration).

f) Ensure the rope is properly attached with the safety pin in place and back coiled.

g) Ensure the extraction harnesses are serviceable and properly worn.

h) Ensure the rope chemlights are correctly rigged and illuminated, when needed (two at the mount, two at the end and two 15 feet from the end).

3. FRIES Roper: Ropers are responsible for notifying the FRM, AFRM, safety or pilot if they observe any unsafe acts or conditions. Ropers may halt or call for a halt of roping for safety at any time. During FRIES insertion training, the number of ropers on the fast rope at one time is limited to three. During extraction training, the total weight per extraction bar or rope will not exceed a total of 1,500 pounds. When rucksacks are worn by ropers, the rucksacks must not exceed a weight of 35 pounds (total roper equipment weight will not exceed 50 pounds). Ropers will:

a) Keep hands at head level.

b) Maintain visual contact with lower ropers during their descent.

c) Maintain a minimum of a one-second interval on exit to avoid collisions.

d) Keep at least two points of contact on the rope (both hands) at all times.

e) Use their feet for additional breaking any time needed.

f) Execute descents at a safe speed.

g) Show the rate of descent halfway down the rope to avoid landing on each other.

h) Move quickly away from the rope upon arrival on the surface.

i) Know correct wear of extraction (STABO) harness and extraction procedures.

I-22 Ropes and Harness. FRIES equipment should be maintained in the same manner as a parachute. The unit rigger section can provide detailed guidance on appropriate inspection, care and maintenance of FRIES equipment.

1. FRIES ropes and harnesses must always be stored in a clean, cool and dry space out of direct sunlight and free of chemicals or chemical vapors. Equipment that becomes wet with fresh water should be hung up to dry (indoors) on hardwood pegs. Equipment that is exposed to salt water or becomes imbedded with dirt or mud should be washed and rinsed in fresh water (within 72 hours) and hung up to dry (indoors) on hardwood pegs (out of direct sunlight).

2. Before conducting a fast rope operation, the FRM:

    a) Inspects the fast rope thoroughly and carefully. Checks the rope length to ensure it is the correct rope for the operation planned.

    b) Checks the woven loop on the mount end for excessive wear or chemical contamination. Checks the rope along its entire length for fraying, cuts or chemical contamination.

        - Do not use a rope that is severely frayed. (Light fraying on the rope from normal use does not weaken the rope.)

        - Do not use a rope when any single strand is cut halfway through or has two or more cuts that penetrate one-third or more through any strand's thickness within one foot of the running length of the FRIES.

    c) Inspects the rope for contamination of acid, alkaline compounds, salt water, fire extinguisher solutions or petroleum-based solvents. Changes in color caused by chemicals are usually blotchy and have an unusual odor. Although used ropes gradually change color, such changes do not indicate a decrease in strength, unless the change is due to contact with strong chemicals. Changes occurring because of use are usually uniform throughout the length of the rope.

    d) Inspects the extraction loops to the same standard as the main rope. Ensures the woven loops are secure.

    e) Inspects the harness to ensure:

        - Ropers are wearing the harness under all load-carrying equipment.

        - Ropers have properly fastened all connectors.

        - Harness material and stitching are not cut, torn or contaminated and all hardware is free of corrosion and is in operable condition.