

November, 2001

Appendix F

COURSE: Interagency Helirappel Training	INSTRUCTOR:
TITLE OF LESSON: Spotter Training	DATE:
TIME PERIOD (TOTAL):	PLACE:
TYPE OF LESSON: Outline	
CLASSROOM:	ASSISTANTS:
TRAINING AIDS:	
OBJECTIVE(S): * To provide a standard lesson plan for spotter training. This lesson plan is in outline form.	

TIME	LESSON OUTLINE	KEY POINTS & AID CUES
	<p>I. INTRODUCTION</p> <p>Individual experiences must be used by spotter instructor during the training.</p> <p>II. EQUIPMENT</p> <p>III. GROUND/ELEVATED PLATFORM TRAINING</p> <p style="padding-left: 20px;">A. Ground</p> <p style="padding-left: 20px;">B. Tower</p> <p style="padding-left: 40px;">1. Low</p> <p style="padding-left: 40px;">2. High (Simulator)</p> <p style="padding-left: 20px;">C. Mock-up (Configuration)</p> <p>IV. EMERGENCY PROCEDURES - SAFETY</p> <p>V. HELICOPTER RAPPELS</p> <p>VI. CARGO LETDOWN</p> <p>VII. COMMUNICATIONS - BRIEFINGS</p> <p>VIII. HAZARDS - CAPABILITIES AND LIMITATIONS</p> <p>IX. DOCUMENTATION/ADMINISTRATION</p> <p>X. POLICY AND PROCEDURES - LOCAL/CO-OP</p> <p>Rappel Decision?</p>	

Spotter Training

TIME	LESSON OUTLINE	KEY POINTS & AID CUES
	Stick to Training	

Spotter Training

COURSE: Interagency Helirappel Training	INSTRUCTOR:
TITLE OF LESSON: Spotter Training	DATE:
TIME PERIOD (TOTAL):	PLACE:
TYPE OF LESSON: I - Introduction	
CLASSROOM:	ASSISTANTS:
TRAINING AIDS: Interagency Helicopter Rappel Guide	
OBJECTIVE(S): * To introduce spotter trainees to the goals and prerequisites of this training.	

TIME	LESSON OUTLINE	KEY POINTS & AID CUES
	<p>I. INTRODUCTION</p> <p>The success of a safe rappel mission is based on the knowledge and skills of the spotter. The spotter ensures that rappel operations will be in compliance with approved Interagency Guidelines (see IHRG). Emphasis is placed on safety as being the #1 priority in all rappel missions.</p> <p>The course is performance-based, hands-on training. The trainee must pass each section at the 100% level. No deviations or variations of equipment, rappel techniques, or procedures used will be allowed without advance appropriate agency approval.</p> <p>All rappel procedures must be followed as outlined in the Interagency Helicopter Rappel Guide (IHRG). Numerous references throughout this lesson plan are made to IHRG. A copy of the IHRG must be used in conjunction with this training.</p> <p>OBJECTIVES:</p> <ul style="list-style-type: none"> A. To provide necessary knowledge and skills to spotter trainees. B. To perform independently as fully-qualified heli-rappel spotters. C. Ensure standardization on a national interagency level of spotter training in all functional areas. <p>PREREQUISITES:</p>	

Spotter Training

TIME	LESSON OUTLINE	KEY POINTS & AID CUES
	<ul style="list-style-type: none"> * Four (4) operational rappels: helispot, fire, etc. * At least twenty (20) live helicopter rappels. * Must assist instruction of basic rappel training as outlined in IHRG. * Additional requirements for fire program spotters: Meet the requirements for fire helicopter managers as stated in IHOG. <p>At each new base, an instructor must be utilized or assigned to instruct and certify new spotters, assuring the spotter has demonstrated ability to rig helicopter; conduct rappels and cargo letdown to the satisfaction of the instructor; and meets requirements of IHRG.</p>	

Spotter Training

COURSE: Interagency Helirappel Training	INSTRUCTOR:
TITLE OF LESSON: Spotter Training	DATE:
TIME PERIOD (TOTAL):	PLACE:
TYPE OF LESSON: II - Equipment	
CLASSROOM:	ASSISTANTS:
TRAINING AIDS: All necessary rappel equipment to be demonstrated.	
OBJECTIVE(S): * To ensure trainee is familiar with use and care of spotter related equipment, including rappel equipment, anchor, and spotter safety.	

TIME	LESSON OUTLINE	KEY POINTS & AID CUES
	<p>I. EQUIPMENT</p> <p>All equipment will be monitored, and life expectancy limitations will be followed in order to maintain an adequate margin of safety. If integrity of any piece of equipment is suspected of being compromised, it shall be immediately retired for service.</p> <p>Logbooks must be kept up-to-date for all pieces of equipment requiring service history documentation. The spotter is responsible for ensuring that all logbooks are maintained.</p> <p>Equipment:</p> <ul style="list-style-type: none"> * PPE appropriate for helicopter missions * Nomex (registered trademark of DuPont) * Safety snub straps * Rappel anchor and carabiners * Flight gloves and heater gloves * Spotter harness/rappel harness * SPH-4/5 helmet with foam microphone cover * Motorcycle helmet * Spotter tether * Figure "8" with ears and letdown equipment * Rappel knife * Ropes, sky genie, rope bags * Eye protection <p>Rappeller Equipment: Even though the rappeller has responsibility for daily inspections, the spotter is ultimately responsible for monitoring the use and care of the equipment. All equipment requirements and standards can be found in IHRG, Chapter 3.</p>	<p>Instructor must demonstrate each piece of equipment to trainee, emphasizing spotter equipment.</p>

Spotter Training

COURSE: Interagency Helirappel Training	INSTRUCTOR:
TITLE OF LESSON: Spotter Training	DATE:
TIME PERIOD (TOTAL):	PLACE:
TYPE OF LESSON: III - Ground/Elevated Platform Training	
CLASSROOM:	ASSISTANTS:
TRAINING AIDS: All rappel equipment, tower, and simulator.	
<p>OBJECTIVE(S):</p> <p>* To ensure the trainee attains advanced skill level sufficient to instruct and spot new rappellers. Also, to ensure trainee is completely knowledgeable of all rappel and spotter equipment.</p>	

TIME	LESSON OUTLINE	KEY POINTS & AID CUES
	<p>I. TRAINING</p> <p>Becoming proficient in training new rappellers is essential for a new spotter. It reinforces what the spotter has learned and it creates trust and rapport with the rappellers (rappel training must be accomplished with a qualified spotter as lead instructor).</p> <p>The ground training is divided into three parts:</p> <p>A. Equipment Operations and Demonstrations</p> <p>B. Elevated Platform/Low Tower (fixed rope descents)</p> <p>C. High Tower/with Simulator Rappels from simulator must include complete rappel sequence.</p> <p>A. Equipment Operations and Demonstrations</p> <p>Refer to Rappel Lesson Plan.</p> <p>All equipment must be demonstrated and properly fitted. Instructor must cover limitations and proper use of equipment.</p> <p>The Buddy Check must be accomplished at this time in accordance with IHRG and emphasis must be made that this check is performed the same way <u>every time</u>.</p> <p>Proper hand signals must be demonstrated by the instructor.</p> <p>Instructor shall ensure that trainee transitions from</p>	<p>Must attain 100% proficiency before moving to the next lesson.</p> <p>See IHRG for specific numbers of cycles for items A-C.</p> <p>Must attain 100% proficiency before moving to the next lesson.</p>

Spotter Training

TIME	LESSON OUTLINE	KEY POINTS & AID CUES
	<p>thinking about personal rappel equipment to total system management.</p> <p>B. Elevated Platform/Low Tower</p> <p>Instructor must demonstrate proper spotting techniques. Trainee must spot a number of fixed rope descents from low tower and high tower, including one lock-off and one tie-off with proper hand signals, as determined by instructor.</p>	<p>Must attain 100% proficiency before moving to the next lesson.</p>

Spotter Training

COURSE: Interagency Helirappel Training	INSTRUCTOR:
TITLE OF LESSON: Spotter Training	DATE:
TIME PERIOD (TOTAL):	PLACE:
TYPE OF LESSON: IV - Emergency Procedures	
CLASSROOM:	ASSISTANTS:
TRAINING AIDS:	
OBJECTIVE(S): * To ensure trainee has comprehensive knowledge of possible emergency situations and demonstrates ability to take corrective action.	

TIME	LESSON OUTLINE	KEY POINTS & AID CUES
	<p>I. EMERGENCY PROCEDURES</p> <p>Intensive emergency procedure training by the instructor will be accomplished in order to effectively deal with any potential situation which may occur.</p> <p>Emergency procedures must be discussed by the instructor throughout the training process, including ground, tower, and simulator sessions, in the mock-up, and in live practice rappels.</p> <p>The emergencies are divided into three categories:</p> <ul style="list-style-type: none"> A. Helicopter Related B. Rappeller C. Environmental <ul style="list-style-type: none"> A. Helicopter Related <ul style="list-style-type: none"> 1. Mechanical - Helicopter problems 2. Human - Pilot error <p>Comprehensive pre-flight briefings will occur between all mission personnel during initial training and pre-rappel briefings. Briefings will cover helicopter-related emergencies and possible remedies.</p> <p>Ensure primary and relief pilots also take part in briefings.</p> <p>Refer to IHRG and Rappel Lesson Plan.</p> <p>B. Rappeller/Spotter</p>	<p>Must attain 100% proficiency before moving to the next lesson.</p> <p>Practice cutting retired loaded ropes and letdown lines.</p>

Spotter Training

TIME	LESSON OUTLINE	KEY POINTS & AID CUES
	<p>Comprehensive pre-flight briefings and effective communications between pilot, spotter, and rappellers are required. Instructor will re-emphasize procedures and corrective actions as outlined in the IHRG. Possible emergencies and corrective actions must be covered by the instructor. It is then the trainee's responsibility to demonstrate proficiency and awareness of emergencies and corrective actions.</p> <p>C. Environmental Hazards - See Chapter VII</p> <p>Environmental hazards may lead to emergency situations.</p>	

Spotter Training

COURSE: Interagency Helirappel Training	INSTRUCTOR:
TITLE OF LESSON: Spotter Training	DATE:
TIME PERIOD (TOTAL):	PLACE:
TYPE OF LESSON: V - Helicopter Rappels	
CLASSROOM:	ASSISTANTS:
TRAINING AIDS: Carded helicopter and rappel-qualified pilot.	
OBJECTIVE(S): * Trainee will demonstrate ability to configure helicopter for rappel and to safely conduct rappel sequence without hesitation or error.	

TIME	LESSON OUTLINE	KEY POINTS & AID CUES
	<p>I. HELICOPTER RAPPELS</p> <p>Trainee must display complete competence in all previous phases of training before beginning live rappels.</p> <p>Refer to Chapter VII for proper in-flight communications.</p> <p>A. Mock-Ups</p> <p>Trainee proficiency and cabin management will be demonstrated at this stage and in all phases of training and operations. Proper storage and configuration of equipment must be repeated by trainee.</p> <p>A minimum of eight (8) rappel cycles will be spotted by the trainee without procedural error in the mock-up phase.</p> <p>B. Live Rappels</p> <p>Trainee must spot 10 complete cycles without procedural error, and must be with cargo.</p> <p>Communications between spotter trainee and pilot must be maintained during this sequence and checked by instructor.</p> <p>It is recommended that each trainee go through at least one (1) simulated aborted mission. Instructor will discuss procedure prior to mock-ups.</p>	<p>Must attain 100% proficiency before moving to the next lesson.</p> <p><u>All instruction will be conducted by a qualified spotter.</u></p> <p>See IHRG for specific numbers of cycles for items A-C.</p>

Spotter Training

COURSE: Interagency Helirappel Training	INSTRUCTOR:
TITLE OF LESSON: Spotter Training	DATE:
TIME PERIOD (TOTAL):	PLACE:
TYPE OF LESSON: VI - Cargo Letdown	
CLASSROOM:	ASSISTANTS:
TRAINING AIDS:	
OBJECTIVE(S): * To have trainee demonstrate proficiency in all phases of cargo letdown that are specific to that base.	

TIME	LESSON OUTLINE	KEY POINTS & AID CUES
	<p>I. CARGO DELIVERY</p> <p>Trainee must demonstrate proficiency in all aspects of cargo letdown specific to make and model being used.</p> <ul style="list-style-type: none"> * Coordinate cargo deployment with pilot * Ability to configure all equipment and helicopter for the successful completion of a mission * Demonstrate acceptable packaging techniques for various letdown items <p>NOTE: This chapter of the lesson plan is intended as part of overall spotter training. In order to train a non-rappeller for cargo letdown, refer to IHRG Appendix C.</p>	<p>Instructor must use IHRG Appendix C.</p> <p>Must attain 100% proficiency before moving to the next lesson.</p>

See "Model Specific Procedures - Cargo Letdown" and Lesson Plan in IHRG for Cargo Letdown.

Spotter Training

COURSE: Interagency Helirappel Training	INSTRUCTOR:
TITLE OF LESSON: Spotter Training	DATE:
TIME PERIOD (TOTAL):	PLACE:
TYPE OF LESSON: VII - Communications	
CLASSROOM:	ASSISTANTS:
TRAINING AIDS: Simulated dispatch participation.	
OBJECTIVE(S): * To provide guidelines for effective communications between pilot, spotter, and rappellers.	

TIME	LESSON OUTLINE	KEY POINTS & AID CUES
	<p>I. COMMUNICATIONS</p> <p>A. Briefings Pre- and post-mission between pilot, rappellers, and spotter.</p> <p>B. Operational Communications</p> <ol style="list-style-type: none"> 1. Verbal: Use clear, concise, and standard terminology. <ol style="list-style-type: none"> a. Directional: "my side," "your side," "back," "forward," "up," and "down." b. Power checks and stability: "Power check." 2. Non-verbal: Hand signals - refer to IHRG and Rappel Lesson Plan. 3. As examples: <ul style="list-style-type: none"> "Dropping rope bags" "Ropes on ground" "Rappellers to skids" "Sending rappellers" "Half-way down" "Rappellers on ground" "Rappellers clear" "Dropping ropes" "Clear to fly" <p>Proper use of hand signals is a must at this stage of training.</p> <p>Also, see examples in the Rappel Lesson Plan.</p> <p>Specific terminology can be dependent on make and model, to be finalized by spotter and pilot.</p>	

Spotter Training

TIME	LESSON OUTLINE	KEY POINTS & AID CUES
	C. Dispatch Communications Notify dispatch before beginning and after completing rappel operations.	

Spotter Training

COURSE: Interagency Helirappel Training	INSTRUCTOR:
TITLE OF LESSON: Spotter Training	DATE:
TIME PERIOD (TOTAL):	PLACE:
TYPE OF LESSON: VIII - Hazards	
CLASSROOM:	ASSISTANTS:
TRAINING AIDS:	
OBJECTIVE(S): * To make trainee aware of potential hazards experienced by other spotters and to demonstrate remedies.	

TIME	LESSON OUTLINE	KEY POINTS & AID CUES
	<p>I. HAZARDS</p> <p>Pilot is ultimately responsible for making determinations for continuing or aborting missions based on changing conditions. Conditions must be acceptable to both pilot and spotter. Spotter can abort the mission if unsafe conditions exist. Sound judgment must be used.</p> <p>Exercise risk management at all times</p> <p>A. Weather factors</p> <ul style="list-style-type: none"> * Terrain-affected winds * Thunderstorms * Visibility decrease * Snowstorms (SAR) <p>B. Fire Behavior</p> <ul style="list-style-type: none"> * Changing behavior due to weather <p>C. Equipment Malfunction</p> <p>D. Troubleshooting</p> <p>E. Darkness or shadows decrease spotter's ability to see rappellers on ground due to terrain, height and density of canopy, or time of day</p> <p>F. Rappeller's ability to exit area safely.</p> <p>Mission Limitations: altitude, temperature, winds, payload, CG, fuel load, daylight, pilot hours, crew and pilot abilities.</p>	

Spotter Training

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TITLE OF LESSON: Spotter Training	DATE:
TIME PERIOD (TOTAL):	PLACE:
TYPE OF LESSON: IX - Documentation/Administration	
CLASSROOM:	ASSISTANTS:
TRAINING AIDS: Appropriate forms packet and log books.	
OBJECTIVE(S): * To orient trainee in proper logbook and forms documentation.	

TIME	LESSON OUTLINE	KEY POINTS & AID CUES
	<p>I. DOCUMENTATION/ADMINISTRATION</p> <p>As noted earlier, all documentation in the form of equipment and personnel logbooks must be updated and thorough. Instructor should stress the importance of this to the trainee.</p> <p>Refer to IHRG and Rappel Lesson Plan.</p>	

Spotter Training

COURSE: Interagency Helirappel Training	INSTRUCTOR:
TITLE OF LESSON: Spotter Training	DATE:
TIME PERIOD (TOTAL):	PLACE:
TYPE OF LESSON: X - Policy and Procedures	
CLASSROOM:	ASSISTANTS:
TRAINING AIDS:	
OBJECTIVE(S): * To discuss site- and agency-specific operating plans. To establish program direction at each base for spotter to follow.	

TIME	LESSON OUTLINE	KEY POINTS & AID CUES
	<p>I. POLICY AND PROCEDURES</p> <p>A written base heli-rappel operating plan must be completed and approved at the appropriate administrative level. This plan can include such items:</p> <ul style="list-style-type: none"> * Rappel decision-making criteria * Spotter checklist * Model specific procedure for rappel and cargo let-down * Base specific procedures * Rappel accident action plan * Fitness standards and requirements * Large incidents and assignments * Search and rescue/medivac * Dispatch procedures/get-away time * Off-Forest/District rappel procedures * Standard Initial Attack loads * Booster rappeller plan * Proficiency and training schedule * Coordination with cooperating agencies <p>NOTE: Instructor will stress that it is imperative to fully comply with standard set forth in this training guide and the Interagency Helicopter Rappel Guide. Any deviations must be approved by appropriate line authority.</p>	