



**United States  
Department of the Interior**

**Law Enforcement Short Haul  
Policy**

**Document Version  
1.7**

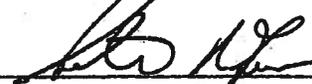
## FOREWORD

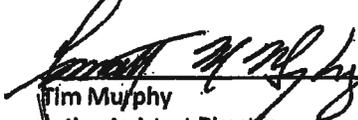
As authorized by 112 DM 10.8, this Law Enforcement Short Haul Policy defines the objectives, policies, and standards for Department of the Interior law enforcement short haul programs with the bureau concurrence and approval below.

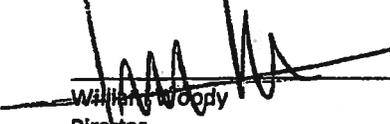
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## VERSION/MODIFICATION LOG

Date	Version	Summary of Modifications / Changes
April 9, 2009	1.0	Baseline document derived from CAMP policy.
April 27, 2009	1.1	Modified document for DOI use.
May 14, 2009	1.2	Modified document for final Working Group review.
May 20, 2009	1.3	Draft, including BLM comments, submitted for final edit prior to submission to Executive Committee.
June 9, 2009	1.4	Final edit to submit to Executive Committee.
June 17, 2009	1.5	Final document for signatures.
December 5, 2009	1.6	Formal review of LESH policy
January 4, 2011	1.7	Removal of interim status language and Appendix A Part 2, Risk Management Worksheet, used to develop interim policy. Updated signature page.

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# CHAPTER 1

## General Information

### 1.1 Definition

Law Enforcement Short Haul (LESH): To transport one or more Department of the Interior (DOI) Law Enforcement Officers (LEO) externally suspended below a helicopter for a short distance, for the purpose of tactical insertion into, or extraction from a crime scene.

### 1.2 History

Short Haul or STABO systems were pioneered by the U.S. Army Special Forces and the 1<sup>st</sup> Marine Division in the late 1960s in Viet Nam. The original Army device was a 100-foot rope with a loop tied in the end with a padded canvas seat. Later the system was redeveloped using individual nylon straps and a full body harness to extract small teams from areas where a helicopter could not land. The Marine system consisted of a system of web straps to accommodate a small team called a Special Patrol Insertion/Extraction System (SPIES).

Similar techniques, developed independently, were devised primarily by mountain rescue operations and gained popularity in Europe prior to 1970 as an effective method of rescue. These search and rescue (SAR) techniques relied on nylon climbing ropes and mountain climbing gear. In 1970, National Parks Canada incorporated the technique in their search and rescue program and termed it “short haul.” These systems are currently in use at various U.S. national parks as an effective means of inserting and extracting SAR personnel in areas where helicopters cannot land and over ground travel is unacceptably dangerous and/or time consuming.

In the early 1980s, the technique was adopted and modified by a variety of law enforcement agencies for mountain rescue and law enforcement operations. A large number of military veterans who had been trained in this technique found their way into law enforcement careers; as a result, LESH was implemented into the law enforcement community, often being called by its original military name of STABO or SPIES Rig.

In 1997, the Campaign Against Marijuana Planting (CAMP) program, a multiagency law enforcement operation in California supervised by the California Department of Justice (DOJ), Bureau of Narcotic Enforcement (BNE), adopted the wire rope assembly system as their method of inserting teams into marijuana cultivation sites in Mendocino County. By 1999, CAMP used short haul operations in all three regions, successfully completing 1,632 sorties.

By 2000, California DOJ successfully petitioned the Commission on Peace Officers Standards and Training (POST) to adopt the short haul operations policies and procedures as a standard for all California law enforcement agencies to follow and implement. Since then, CAMP has worked closely with allied Federal and local agencies to standardize LESH operations.

As a result of continuous input from the field, refinement of the program has continued over the years. To date, CAMP has logged over 37,355 LESH missions without significant incident or injury. During the 2008 season, CAMP reached an alltime high with over 9,105 training and operational LESH sorties being conducted.

In 2007, the Washington State Patrol Cannabis Eradication and Response Team (CERT) adopted a virtually identical program to that of CAMP. During that year, their raid success jumped dramatically, while lost time injuries decreased equally dramatically. CERT, like CAMP, continues to provide close support to Federal and local law enforcement on public and tribal lands.

In the late 1980s, Hawaii Volcanoes National Park adopted a short haul program to raid widespread marijuana cultivations which were devastating the park. This program continues today under policy waiver, operating in conjunction with the Drug Enforcement Administration.

By 2007, Sequoia-Kings Canyon National Park added LESH to their existing SAR short haul program, using an exclusive use helicopter under policy waiver. This effort was necessitated by Mexican National Drug Traffic Organizations (DTO), which were similarly devastating areas of the park.

With DTO operations inundating public lands on the west coast, Bureau of Land Management (BLM) and U.S. Fish and Wildlife (FWS) have been successfully participating in the CAMP and CERT programs in California and Washington with great success. Simultaneous raids conducted without LESH on DOI lands have suffered high injury rates and have been hampered where LESH use by cooperating agencies has not been available.

In 2009, recognizing the need to reduce risk while effectively inserting and extracting DOI law enforcement officers at an ever increasing number of marijuana cultivation sites on Interior and tribal lands, DOI began development of a law enforcement short haul policy (LESH). The first LESH Working Group policy development meeting was held in the spring of that year.

### 1.3 Scope

This policy is intended to encompass only law enforcement short haul operating in conjunction with CAMP and CERT; as an independent, stand-alone function separate and distinct from other short haul and similar helicopter programs. Other programs including search and rescue (SAR), US Park Police hoist and helicopter rappel and LESH at Sequoia-Kings Canyon and Hawaii Volcanoes National Parks are not impacted. As determined by the Executive Committee, other law enforcement programs may come under review by the Working Group for inclusion in an all encompassing policy document.

### 1.4 Objectives

The objective for the LESH Policy is to ensure standardization in policies, procedures, and techniques for Department law enforcement officers participating in the LESH program.

### 1.5 Purpose

LESH operations are conducted for the following purposes:

1. LESH affords law enforcement a highly efficient tactical delivery system for placing personnel into areas where travel over rough, steep, and hazardous terrain in hot weather poses a higher risk to officers than insertion/extraction using LESH methods.
2. LESH offers an efficient and effective option for DOI LEO and allied agencies to conduct marijuana eradication operations and onsite marijuana investigations in extremely remote and inaccessible locations. This efficiency encompasses the removal of infrastructure and environmental hazards from cultivation sites intended to hamper ongoing cultivation and preclude reoccupation of cultivation sites by criminal groups.
3. LESH provides for fast and effective evacuation of LEO who may be injured at a remote crime scene, where ground travel would seriously impair the survivability of the officer and possibly exacerbate their injuries. It is necessary to be able to move field medics and SWAT physicians rapidly from place to place to provide immediate medical care at the highest possible level. This movement of medics and injured persons can only be facilitated by having every law enforcement officer on scene trained and experienced in LESH operations.

## 1.6 Duties of Law Enforcement Short Haul Working Group

Under this policy, the Law Enforcement Short Haul Working Group will:

1. Annually review all SAFECOM reports pertinent to LESH.
2. Report findings and recommendations from SAFECOM reviews to the LESH Executive Steering Committee.
3. Encourage and facilitate CAMP and CERT participation in the SAFECOM program.
4. Prepare an analysis of this policy and make recommendations for modifications.

## CHAPTER 2

### LESH Qualifications, Requirements, and Responsibilities

**Note:** This policy explicitly adopts California DOJ, BNE, CAMP LESH and Washington CERT helicopter pilot training and certification standards.

**Note:** Each higher level of supervision must have completed the training requirements for the next lower supervisory level. The Check Short Haul Master will meet the training requirements established for the Short Haul Master and the Short Haul Master will meet the training requirements established for law enforcement officers.

#### 2.1 Pilot Requirements

Pilot(s) shall comply with the following minimum requirements:

- A. Pilots shall be qualified in accordance with 14 CFR 133 for class A and B external load operations.
- B. 50 hours of Pilot-In-Command (PIC) in make and model of aircraft (1,500 hours as Pilot-In-Command).
- C. 25 hours total time in vertical reference experience within the last 12 months requiring precision placement.
- D. Possess an Interagency Helicopter Pilot Qualification (AMD-30B/FS5700-3A) card for longline and short haul operations.
- E. Annually attend a LESH training course presented by CAMP or CERT.
- F. Understand and demonstrate LESH techniques and procedures.
- G. Demonstrate a series of LESH-evaluated LESH exercises.
- H. Demonstrate LESH emergency procedures to include a simulated SHAPE deployment.
- I. Demonstrate ability to work with the LESH Master and Helicopter Manager.
- J. The Pilot shall successfully complete the short haul Pilot Proficiency Test contained in the *Interagency Helicopter Practical Test Standards*.

**Note:** Only pilots who have verifiable vertical reference skills and are piloting an aircraft from which they can directly observe the LESH LEO during the operation will be accepted.

## 2.2 Training and Proficiency

The LESH Check Master/Safety Officer may require pilot proficiency training in typical terrain.

## 2.3 LESH Master/Safety Officer

The CAMP or CERT Operations Commander with applicable supervisory approval or his or her designee shall designate the LESH Check/LESH Master/Safety Officer.

## 2.4 Check/LESH Master/Safety Officer Responsibilities, Qualifications, and Training

The CAMP or CERT Air Operations Commander and the Operations Commander shall recommend the Check LESH Master/Safety Officer.

### A. Responsibilities:

1. Training of LESH and allied agency personnel in safe LESH operations and techniques.
2. Field inspections of LESH operations during the season to ensure compliance with safety, operational and risk assessment procedures.
3. Liaison with allied agencies on LESH operational and training issues.
4. Evaluation, research and development of LESH procedures, equipment, and training.
5. Advise and assist the Operations Commander on issues relating to LESH safety, risk assessment, policy and training.
6. Liaison with the LESH Air Operations Commander on LESH-related procedures and training.

### B. Qualifications and Training:

1. The Check LESH Master/Safety Officer must have an intimate knowledge of LESH operations, helicopter operations, and equipment.
2. Have completed an approved Helicopter Crew Person Training Course ("HECM") and/or the Basic Helicopter Safety Course ("B-3"). DOI personnel performing CSHM duties as part of a CAMP/CERT LESH operation will meet IHOG (*Interagency Helicopter Operations Guide*) resource helicopter manager requirements.
3. Certified as a LESH Master for two (2) seasons.
4. Have assisted in the training of two (2) LESH Masters.
5. Demonstrated ability as an instructor.

## 2.5 LESH Master/LESH Master Trainee Responsibilities, Qualifications, and Training

**Note: Each position must have demonstrated mastery of subordinate position skills prior to certification.**

### A. Responsibilities:

1. The LESH Master is the onsite supervising official for LESH operations DOI Law Enforcement Officers (LEO).
2. The LESH Master is responsible for ensuring that all LESH safety policies and procedures are followed and all personnel qualifications and proficiency requirements have been met.
3. The LESH Master inspects and maintains all assigned LESH equipment. Completes and maintains all documentation pertaining to equipment maintenance and inspections and LESH missions for that assigned team.
4. The LESH Master is responsible for ensuring that a mission briefing is conducted, prior to flight, which includes a review of all safety protocols, ground and in-flight hazards, load calculations, Pilot, Safety Officer and LEO requirements.

### B. Qualifications and Training:

1. Be a sworn Peace Officer accepted by the LESH agency, or a sworn/commissioned Department of the Interior Law Enforcement Officer (LEO).
2. Successfully completed HECM or B-3 Safety Course. DOI personnel performing LSHM duties as part of a CAMP/CERT LESH operation will meet IHOG (Interagency Helicopter Operations Guide) resource helicopter manager requirements.
3. Successfully complete LESH Master Course.
4. Demonstrate knowledge of inspection, care, and maintenance of LESH equipment.
5. Demonstrate ability to properly rig helicopter for LESH operations.
6. Demonstrate ability to conduct safety briefings for LESH operations.
7. Demonstrate ability to conduct safety checks of LESH LEO.
8. Demonstrate knowledge of emergency LESH procedures.
9. Demonstrate ability to spot six LESH insertions and extractions.
10. Demonstrate ability to work with pilot and cooperating agencies.
11. Demonstrate knowledge and ability to complete required forms and records.
12. Be familiar with LESH helicopter contract.

**Note: The LESH Master must perform all duties without procedural error before certification. The Check LESH Master/Safety Officer may determine the number of LESH operations necessary to qualify a new LESH Master above minimum requirements.**

C. LESH Master Trainee:

The LESH Master Trainee will be under the supervision of the Check LESH Master/Safety Officer and/or a certified LESH Master. The LESH Master Trainee must meet the minimum requirements for a LESH Master to include:

1. Demonstrate knowledge and skill of inspecting, care, maintenance, and documentation of LESH equipment.
2. Shadow a LESH Master for at least four (4) LESH operations.
3. Demonstrate knowledge and skill of properly rigging and inspecting LESH long line and safety equipment.
4. Demonstrate ability to inspect LESH LEO equipment without procedural error.
5. Conduct briefing and debriefing with LESH LEO.
6. Independently conduct six (6) LESH operations without error, under observation by LESH Master (instructor).

2.6 LESH DOI Law Enforcement Officer (LEO) Responsibilities, Qualifications, and Training

A. Responsibilities:

1. It is the responsibility of all mission site LESH LEO to meet and follow all established LESH policies and procedures. LEO shall ensure that all of their issued LESH equipment is maintained and inspected.
2. LESH LEO will attend and participate in all mission briefings.
3. DOI LEO will participate in other than flat pitch landings only in accordance with existing departmental policy (reference: *DOI AM Operational Procedures Memorandum (OPM) No. 40, Approval for Single-Skid, Toe-In, and Hover Exit/Entry*).
4. All other aviation operations will be conducted in accordance with established DOI policy.

B. Training and Qualifications:

1. Successfully complete Helicopter Crewperson Training Course or the Basic Helicopter Safety Course (included in the LESH Operations Course).
2. Successfully complete the LESH Operations Course.
3. Demonstrate knowledge and skill of inspection, care, and maintenance of LESH equipment.
4. Demonstrate ability and knowledge of LESH policy and procedures.
5. Demonstrate ability and knowledge to self-rig and inspect LESH equipment.
6. Demonstrate hand signals.
7. Demonstrate knowledge of LESH emergency procedures (reference Chapter 6 of this document).

8. Satisfactorily demonstrate three (3) LESH harness rigging and “A” Frame hookups.
9. Successfully complete a minimum of four (4) LESH operations without procedural error.

**Note: The Check LESH Master/Safety Officer and/or LESH Master may require additional training for LESH LEO personnel to develop and improve their proficiency.**

## 2.7 Annual Qualification Training and Requirements

The Pilot, Check LESH Master, Safety Officer, LESH Master and LESH LEO shall annually attend an agency-approved LESH Operations training course and/or complete recertification. They shall complete the following requirements to the satisfaction of a certified Check LESH Master, Safety Officer, or LESH Master:

1. Check LESH Master/Safety Officer shall review and demonstrate ability and knowledge of all LESH procedures and policies. Instruct the LESH Master Course and/or LESH Operations course.
2. LESH Master shall demonstrate ability and knowledge of all LESH Master Duties as outlined in this manual under Chapter 2, section 2.5, to the satisfaction of a certified Check LESH Master/Safety Officer and those of the LESH LEO.
3. LESH LEO shall demonstrate ability and knowledge of all LESH LEO duties as outlined in this manual under Chapter 2, section 2.6, to the satisfaction of a certified Check LESH Master or certified LESH Master.
4. Pilot shall demonstrate ability and knowledge of all pilot requirements as outlined in this manual under Chapter 2, section 2.1 to the satisfaction of the Check LESH Master/Safety Officer and/or the CAMP/CERT Air Operations Commander.

## 2.8 Proficiency Requirements

It will be the responsibility of the LESH Check LESH Master/Safety Officer to ensure the frequency of proficiency training for all LESH LEO to include the pilot, LESH Masters and LESH LEO.

1. LEO participating in LESH will successfully complete the specified basic LESH certification and will complete the annual recertification course for each calendar year prior to mission participation.

2. LESH Masters and Safety Officers will complete annual recertification training as specified by LESH. Where the LESH Master or Safety Officer has not completed a mission within 90 days, he or she will demonstrate proficiency prior to conducting an operational mission.
3. LESH contract pilots will complete LESH specified recertification at least annually and after each period greater than 90 days if pilots have not flown training or actual LESH missions.

## CHAPTER 3

### Personal Protective Equipment

During LESH operations, DOI LEO shall wear personal protective equipment (PPE) as specified in this chapter. No other exceptions shall be permitted.

For flights other than the tactical extraction of LEO, DOI personnel will wear aviation life support equipment (ALSE) as specified in the *DOI Aviation Life Support Equipment Handbook*.

For flights involving tactical extraction of 5 miles or less, LEO may wear either approved tactical LESH ALSE as defined in this policy or may wear the ALSE specified in the ALSE handbook.

LEO shall be advised prior to the commencement of each LESH operation of the increased danger to them in the event of an accident if they are not wearing a full complement of aviation life support equipment (ALSE) per the DOI ALSE handbook.

#### 3.1 Helmet

##### A. Requirements:

1. LESH Master and the Pilot shall wear an approved aviator's helmet (SPH-4B, SPH-5 or equivalent) with the visor in the down position while performing flight duties inside the aircraft.
2. LEO not involved in tactical operations shall wear an approved aviator's helmet (SPH-4B, SPH-5 or equivalent) with the visor in the down position while performing flight duties inside the aircraft.
3. LEO shall wear a subdued color tactical helmet meeting Union International Alpine Association (UIAA) or "CE" standards, or Kevlar ballistic helmet with four-point suspension or approved aviator's helmet while being transported externally via LESH.

##### B. Care and Use:

1. LESH LEO and individual LEO will frequently inspect helmets for damage and serviceability. The *DOI Flight Helmet User's Guide* (<http://amd.nbc.gov>) is available to help users inspect SPH-5 flight helmets.
2. All personnel will ensure that all flight helmets, LESH helmets or ballistic Kevlar helmets fit properly, the chinstrap is adjusted snugly, and there are no loose cords or straps that could pose the potential for entanglement.
3. The LESH Master and Pilot will ensure that they have avionics communication capability at all times.

### 3.2 Eye Protection

#### A. Requirements:

1. LESH Master and Pilot and LEO (in normal flight operations) will fly with the flight helmet visor down.
2. LEO will wear agency-approved goggles or glasses meeting mil spec or American National Standards Institute (ANSI) spec protection requirements over the eyes with a retainer strap in place during all flight operations while wearing other-than-approved aviator helmets.

#### B. Care and Use:

1. LESH Master and Pilot will ensure that the helmet visor is serviceable and securely attached to the helmet.
2. LESH LEO will ensure that goggles/glasses fit snugly with a tight-fitting strap and are clean and serviceable.

### 3.3 Personal Protective Clothing

#### A. Requirements:

1. Pilot: When performing flight duties, the pilot shall wear flame resistant clothing meeting the requirements of the *National Fire Protection Association (NFPA) 1997 Protective Clothing and Equipment Standards*. Pants or flight suits will be of sufficient length to eliminate exposure of legs. Undergarments will be of natural fiber (i.e., 100% cotton, 100% wool, etc.).
2. LESH Master: When performing LESH Master duties in the aircraft, the LESH Master shall wear flame resistant clothing meeting the requirements of *NFPA 1997 Protective Clothing and Equipment Standards*. Pants or flight suits will be of sufficient length to eliminate exposure of legs. Undergarments will be of natural fiber (i.e., 100% cotton, 100% wool, etc.).
3. LESH LEO: Due to the increased safety concerns of LEO once they have been inserted into the law enforcement situation, they are granted a waiver to the policy of wearing Nomex-type fire resistant clothing, while engaged in training for and conducting ground tactical law enforcement operations.
4. All outer clothing should be made of 100% natural fibers, such as 100% cotton military-style tactical uniforms; however, due to the short service life, limited utility and difficulty of procurement, cotton/polyester blend uniforms are permitted. Undergarments of natural fiber (i.e., 100% cotton, 100% wool, etc.) are preferred. Moisture-wicking/skin-temperature-reducing synthetic undergarments may be worn by LEO operating in environments where heat stress to the officers is expected.

5. LEO shall be advised prior to the commencement of each LESH operation of the increased danger to them in the event of a postcrash, flashover fire if not wearing approved Nomex clothing.

B. Care and Use:

1. LEO will have agency patches sewn or attached with Velcro on both shoulders, a cloth badge above the left breast pocket, a name identification tag/plate for flight suits and a nametag on uniform shirts.
2. Personnel will ensure that PPE clothing is clean and serviceable at all times.

### 3.4 Gloves

A. Requirements:

1. Pilot: When performing flight duties, the pilot shall wear flame resistant gloves meeting the requirements of *NFPA 1997 Protective Clothing and Equipment Standards*.
2. LESH Master: When performing flight duties, the LESH Master shall wear flame resistant gloves meeting the requirements of *NFPA 1997 Protective Clothing and Equipment Standards* (i.e., Nomex flight gloves).
3. LESH LEO: LEOs being short hauled are at a reduced risk from postcrash thermal injuries and, simultaneously, must maintain the dexterity to fire their weapons if the tactical situation dictates. Therefore, LEO may, at their discretion, wear Nomex flight gloves or any glove made of 100% natural materials, to include fingerless-style gloves.
4. LEO shall be advised prior to the commencement of LESH operations of the increased danger to them in the event of a postcrash, flashover fire if not wearing fullfinger Nomex gloves

B. Care and Use:

Personnel will ensure that gloves are clean and serviceable at all times.

### 3.5 Boots

A. Requirements:

1. Boots for all personnel, to include LEO, will comply with the standards in the DOI ALSE handbook.
2. Military flight-approved leather/Cordura nylon combination boots may be worn by LEO and other onsite LESH LEO.

B. Care and Use:

Personnel will ensure that boots are clean and serviceable at all times.

3.6 Emergency Cutting Device

A. Requirements:

1. All LESH LEOs are required to carry a rescue knife to be used solely for rescue. The rescue knife will be secured with a lanyard and will be readily accessible during LESH flights. Knives with fixed blades will be stored in a sheath.
2. The rescue knife shall be of sufficient size to cleanly cut the diameter of rope/strap used with minimal ease.

B. Care and Use:

1. LESH LEO will frequently inspect the rescue knife/cutting tool to ensure that the rescue knife is serviceable and sharp.
2. LESH LEO shall secure the rescue knife to the LESH harness in a readily accessible area location on the chest area accessible with either hand.
3. The LESH Master shall have the rescue knife readily accessible in the aircraft or secured on their flight gear.
4. The rescue knife/cutting device shall be specifically dedicated to cut the "A" Frame assembly.

3.7 Officer Tactical Equipment

A. Requirements:

Due to officer safety issues, it is a personal choice on the type of tactical equipment or tactical vest used. A load-bearing vest (LBV) with an attached hydration system may be worn. At minimum, each officer/agent should have the following equipment:

1. Holster will have either a military-style flap holster or a finger release and friction-style design to secure the handgun.
2. A radio pouch shall be used to ensure the security of the radio.
3. All radios will be equipped with an earpiece and external microphone, boom mic/earpiece combination or bone mic/earpiece at a minimum for positive communications with pilots and other LESH LEO.
4. All radios will be programmed with appropriate frequencies, tones and encryption to facilitate clear communication with LESH pilot and ground personnel.
5. Handcuffs secured in belt or LBV pouch.

B. Care and Use:

The LESH LEO will frequently inspect their tactical equipment and tactical vest to ensure that all snap-on and latching devices are working properly and snugly. In addition, LESH LEO will inspect their tactical equipment to ensure that there are no loose strings, cords or equipment to interfere with the harness or STABO assemblies.

3.8 Carabiners

A. Requirements:

1. For all LESH operations, the positive “auto-locking” steel carabiners will be used. Positive-locking steel carabiners are required and shall meet the requirements of *NFPA 1983 Standard of Fire Service Life Safety Rope and System Components*, 1995 edition. The positive-locking steel carabiner shall have a major axis minimum breaking strength of at least 5,000 pounds.
2. All carabiners used throughout the entire LESH rigging shall be in the form and/or design (shape) commonly known as a “D,” “Offset D,” or “Pear.”
3. All carabiners used to attach personnel harnesses to the “A” Frame will have a minimum breaking strength of 5,000 pounds. These type carabiners will be of an automatic self-closing and auto-lock “safety lock” design. This will require two separate motions to unlock the carabiner. No screw or threaded-style carabiners are permitted
4. The “Standing End” of the “A” Frame and “3 Ring Release System” will be connected to the master link by a “Safety Lock” carabiner made of alloy steel. The rating shall be no less than 10,000 pounds breaking strength when loaded along the “long” or “major axis.” These types of carabiners shall be automatic self-closing and autolocking to require the operator to use two separate motions for release. No screw or threaded-style carabiners are permitted.
5. The three-stage “locksafes” carabiner and double self-locking snap hooks on the YATES Gear “A” Frame Bridal System is permitted.

B. Care and Use:

1. Steel self-locking carabiners will be inspected prior, during and after use by the LESH LEO and LESH Master.
2. Carabiners that show corrosion, wear, abrasions, burrs or gate/gate hinge will be destroyed.
3. Carabiners are designed to have a load placed longitudinally; if load occurs on the side(s), gate failure or undue stress may occur.
4. Carabiners are not to be dropped on hard surfaces and should be replaced if dropped.
5. To clean carabiners, wash in soapy water, rinse, and dry thoroughly. Use a dry lubricant to lubricate the gate hinge and lock (so it won’t collect dirt).

### 3.9 LESH Harness

#### A. General Description and Requirements:

1. LESH utilizes the Tactical Full Body Harness manufactured by YATES Gear, Inc. Other harnesses meeting NFPA, NASI, Occupational Safety and Health Administration (OSHA) and CAMP/CERT requirements are permitted.
2. The Tactical Full Body Harness meets NFPA, NASI, and OSHA requirements.
3. The Tactical Full Body Harness utilizes an extraction harness with two-piece quick connect buckles on the legs and the sternum straps. The waist buckle is mounted on the left side of the harness to keep it free and out of the way of any side arm. A military specification load-bearing vest, shoulder straps are sewn into the harness, allowing the harness to be worn under any load-bearing vest. Leg pouches on the harness allow for the leg straps to be stowed away when not in use.
4. Double buckle locking assemblies, which can be safety locked, are required for added protection.
5. This harness allows the user to be minimally constrained and affords some degree of mobility. It is critical that the harness does not restrict the body movements essential for performing a task (*Federal Aviation Administration (FAA) Aerospace Medicine (AM) Report 98-13*).
6. Harnesses must be within the manufacturer's warranty period and are subject to inspection and approval by the cooperating agency (CAMP/CERT) LESH Master.
7. The LESH Master has final approval for use of any harness used during LESH operations.
8. The harness shall be worn against the body. All other load-bearing equipment shall be worn over the harness.

#### B. Warnings and Safety Precautions for Harness Use:

**WARNING: THIS HARNESS IS PART OF THE PERSONAL PROTECTIVE EQUIPMENT. THAT MEANS YOUR LIFE OR SOMEONE ELSE'S LIFE MAY DEPEND ON IT, POSSIBLY TIME AFTER TIME.**

1. This harness is part of the personal protective equipment. The user must understand all instructions before use.
2. Avoid working where the harness will be contacted with, or abrade against, unprotected sharp edges. If working near equipment where sharp edges are unavoidable, protection against cutting should be provided by using a heavy pad or other means over the exposed edge.
3. Harnesses that have been subject to the forces of a fall shall be removed from service and destroyed.
4. Maximum human capacity of a harness is 310 pounds.

5. Avoid contact with any corrosive or caustic chemical agents such as acids, bases, or petroleum products. Discontinue use of a harness if it has come in contact with any of the above listed or any other suspect chemical agents.
6. Do not store harness in areas where chemical vapors may exist.
7. Do not alter or make self-repairs to this harness. Only the manufacturer will conduct any alterations or repairs to harness.
8. Do not intentionally misuse the harness in any way.
9. Use caution when using the harness around any moving machinery, electrical hazards, sharp edges, chemical hazards and high heat environment or flame.
10. Do not attach more than one load-bearing carabiner onto one D-ring.
11. The two quick-release attachment devices, attached to the A frame currently in use, will be attached to the single D-ring at the front of the LESH harness for short haul.

C. Inspection and Care of Harness:

LESH LEO and LESH Master shall inspect each harness before, during and after each day's use to ensure that it is in a serviceable condition. The LESH Master will maintain inspection records pertaining to the harness (see chapter 9 for documentation).

1. Check for worn or damaged parts. Ensure all hardware (i.e., D-rings, buckles, etc.) is present.
2. Inspect to ensure that all buckles work properly and that they do not have any sharp edges, burrs, cracks or corrosion.
3. Inspect all webbing for wear, cuts, burns, frayed edges or other damage.
4. Inspect all stitching for abrasions, broken strands, cuts and wear to ensure integrity.
5. Thoroughly inspect harness after any period of extended storage.
6. Store harness in storage bag provided by the manufacturer, in a cool, dry, clean environment out of direct sunlight.

**Note: Discontinue use of harness and remove from service if inspection reveals an unsafe condition. Bring all harnesses that have any questionable unsafe conditions immediately to the attention of the Check LESH Master/Safety Officer or the LESH Master.**

D. Harness Inspection Checklist:

1. Webbing: Pass\_\_ Fail\_\_  
\_\_Cuts \_\_Abraded \_\_Requires Cleaning \_\_Chemical Damage \_\_Burned  
\_\_Other
2. Stitching: Pass\_\_ Fail\_\_  
\_\_Cuts \_\_Broken \_\_Abraded \_\_Burned \_\_Missing \_\_Other
3. Hardware D-Rings: Pass\_\_ Fail\_\_  
\_\_Cracked \_\_Bent \_\_Sharp Edges \_\_Corrosion \_\_Other
4. Hardware Buckles: Pass\_\_ Fail\_\_  
\_\_Cracked \_\_Bent \_\_Sharp Edges \_\_Corrosion \_\_Poor Function \_\_Other
5. Elastic Keepers: Pass\_\_ Fail\_\_  
\_\_Cut \_\_Missing \_\_Lost Elasticity \_\_Other
6. Labels: Pass\_\_ Fail\_\_  
\_\_Missing \_\_Unreadable

E. Cleaning Harness:

1. Clean harness with warm water and Simple Green (pH 7).
2. Wipe off hardware with clean, dry cloth and hang to dry in a room temperature area, not in direct sunlight.
3. Do not force dry with heat.
4. Use a soft nylon or natural hairbrush to gently brush any heavy soiled areas.

F. Use and Applications of Attachment Points:

1. The forged D-Ring located at the front waist level of the harness is designed for the attachment of a carabiner for LESH, rappel, positioning and confined entry and exit operations.
2. The large forged D-Ring located in the rear between the shoulders should be used for all general "Fall Arrest Protection." This D-Ring can also be used for confined space entry and exit connections and the extraction of downed personnel.
3. The two D-Rings located on the top of the shoulders should be used for lowering situations such as confined areas or when long hang time is anticipated (for comfort). The use of a "Y" lifting bridle is recommended when using these attachment points.

G. Donning and Fitting the Harness:

1. Inspect the entire harness.
2. Locate D-Rings on the top of each shoulder strap. Ensure the straps are not twisted.
3. Disconnect two-piece buckles located at the sternum, waist, and leg straps.
4. Place harness over the head, positioning the large D-Ring between the shoulders and pull harness down placing the shoulder straps on the shoulders.
5. Make certain all disconnected straps are not tangled and hang freely. The chest strap with the double buckle will be positioned in front.
6. Connect the chest strap buckle and the waist buckle; do not tighten at this time.
7. Remove leg straps from the storage pouches, securing the pouch straps over and tucked behind the waist strap. Connect the leg strap buckles. Ensure that there are no twists in the straps.
8. Snugly adjust all buckles starting at the leg straps. Comfortably snug, but not loose.
9. Snugly adjust the waist, ensuring that the waist strap is at the same position as your belt.
10. Snugly adjust the shoulders, and chest. Ensure to keep the shoulder D-rings on top of the shoulders and the large D-ring in the center of the shoulders.
11. The double buckle assemblies can be safety locked for added protection. All pass through double buckles have a safety lock feature. To complete this feature, take the free end of the webbing and insert it over the top of the three-bar slide buckle, passing through the single buckle assembly. Secure the free end with the elastic keeper.

3.10 Hearing Protection:

A. Requirements:

1. LESH Master and Pilot and LEO (in normal flight operations) will fly with flight helmet with integral hearing protection.
2. LEO should wear in-the-ear protection that is either individually molded or disposable type plugs that protect at Noise Reduction Rating (NRR) 25 or better.

B. Care and Use:

1. LESH Master, Pilot and LEO will ensure that the helmet hearing protection cups are serviceable and securely attached to the helmet.
2. LESH LEO will ensure that hearing protections fits snugly and are clean and serviceable.

## CHAPTER 4

### Helicopter Equipment

#### 4.1 Helicopter Selection

Aircraft shall be turbine-powered helicopters capable of carrying pilot and three passengers in FAA-approved seats. Helicopter shall have a minimum of 317 shaft horse power and be capable of hovering out-of-ground-effect (HOGE) at 6,000 feet pressure altitude (PA) and 25 degrees Celsius (C°) after applying the standard DOI download factor.

#### 4.2 Helicopter and Pilot Certification

Both the helicopter and pilot will be inspected and carded by an interagency inspector for the transportation of DOI personnel.

#### 4.3 Load Calculation

Load calculations will be performed in accordance with the requirements and instructions found in the *Interagency Helicopter Operations Guide* (IHOG). The LESH Master will monitor on a daily basis. The Regional Operations Commander (ROC) and the CSHM will monitor periodically.

#### 4.4 Primary Attachment Point or Anchor (Cargo Hook) for 12 Strand Plasma Line

**Note: CAMP/CERT utilizes the helicopter's cargo hook as the primary attachment point with a 3-ring system as a backup. This system differs from previously approved configurations. DOI accepts the risk of using this procedure.**

The primary attachment point or anchor is defined as the point of attachment of the 12 Strand Plasma Line to the helicopter. LESH utilizes the cargo hook at the bottom of the helicopter as the primary attachment point in addition to a "3 Ring Release System" as a secondary attachment.

1. The pilot can release the primary attachment point (cargo hook).
2. The holder of an FAA Mechanics Certificate with airframe rating will perform maintenance associated with the primary attachment point (cargo hook).
3. Any modifications, alterations, or repair of the primary attachment point (cargo hook) shall be approved and certified by the FAA.

#### 4.5 Secondary Attachment Device (3 Ring Release System)

The secondary attachment device (3 Ring Release System) is defined as a device attached to the 12 Strand Plasma Line and is used as a backup in the event that the primary device fails or is inadvertently jettisoned. In the event that the cargo hook is inadvertently released the "3 Ring Release System" becomes the primary attachment point for the LESH line.

##### A. Care and Use:

1. Do not exceed the working load limit of 2,500-pound requirement for the "3 Ring Release System."
2. Avoid contact with any corrosive or caustic chemical agents such as acids, bases, petroleum products, chemical vapors, or high heat flames.
3. Avoid areas where "3 Ring Release System" will come in contact with or abrade against any sharp edges.
4. Do not alter or make repairs to the "3 Ring Release System."
5. The "3 Ring Release System" is only to be used as a Secondary Attachment Device and shall not be used for any other purpose.
6. The "3 Ring Release System" shall be returned to the manufacturer for serviceability certification prior to the start of each season.
7. If the "3 Ring Release System" is subject to the forces from a fall or release, it shall not be returned to service until it has been inspected by the manufacturer and re-certified for use.
8. The LESH Master and/or Safety Officer will be the only officials responsible for setting up and attaching the "3 Ring Release System" to the helicopter.
9. The LESH Master will inspect the "3 Ring Release System" prior, during and after each day's use.
10. Keep the "3 Ring Release System" clean. Dirt rubbing into and against the fibers will cause deterioration of the strands.
11. One (1) steel auto-locking carabiner that is rated no less than 10,000 pounds minimum breaking strength (MBS) will be attached to the "3 Ring Release System" and that will be attached and locked into the LESH line standing end master link. The gates of the carabiners should be placed so that they face aft in the opposite direction of flight.
12. The "3 Ring Release System" will be stored in a hard protective case to keep it in a clean and dry environment.

B. Inspecting the “3 Ring Release System”

The inspection of the “3 Ring Release System” must be conducted carefully. Start at one end and inspect every inch of the material. Look for signs that might indicate possible damage (e.g., discoloration of fibers, signs or smells which indicate chemical contamination, abrasion, cuts or nicks in the sheath, or visible differences in the diameter of the rope in one area in relation to the rest of the rope).

4.6 12 Strand Plasma Longline

The Plasma 12 Strand Longline manufactured by Canam Aerospace, Inc., is authorized for use as both the LESH line and cargo longline.

A. Use:

The Plasma 12 Strand Longline is intended as the primary longline for all LESH and cargo operations, thus allowing for a one-line system.

B. Specifications:

1. The longline will be constructed of ½” plasma 12 strand rope manufactured by Puget Sound Rope. The rope shall have a minimum 7:1 Safety Factor with a maximum elongation of 5%.

**Note: CAMP policy requires that the rope have a minimum 7:1 safety factor which differs from the standard *DOI Short Haul (SAR) Handbook* requirement of 10:1. DOI accepts the risk of using the 7:1 safety factor for LESH operations.**

2. The entire length of the longline shall be covered with an orange colored Cordura jacket secured over the rope with a Velcro closure running the entire length of the jacket.
3. Each end of the rope will have a secondary blue colored vinyl jacket over the orange colored Cordura jacket for a distance of 6 feet.
4. Both the working and standing ends of the rope shall have a Blue Line Thimble on the eye of the rope splice. A Crosby ½" steel pear link shall be attached to both ends of the rope in the eye of the Blue Line Thimble.
5. All Plasma 12 Strand longline shall be prestretched, tested, and certified to 2½ times the working load.
6. Each longline shall have a manufacturer's ID/serial number assigned to the longline.
7. Each longline shall have documentation indicating the date of manufacture and safe workload.
8. Each longline shall be returned to the manufacturer as needed for inspection and recertification.

9. The working end of longline will be fitted with a jaw-to-jaw swivel attached to the pear link. The lower side of the swivel will be fitted with another matching pear link to allow attachment of the various pieces of equipment. The swivel will remain on the longline at all times.

C. Authorized Lengths:

The Plasma 12 Strand Longline is authorized in the following lengths for LESH operations.

1. 60' - To be used in low brush not higher than 15'.
2. 100' - Standard longline for LESH and cargo operations.
3. 150' - To be used in areas of tall trees where the 100' longline does not provide an adequate safety margin for the aircraft.

**Note: The decision to use the 60' or 150' longline must meet the conditions of this section and be agreed to by the Cooperating Agency Helicopter Manager, Regional Operation Commander, and Contract Pilot.**

D. Care and Maintenance:

1. Daily Longline Inspection:
  - a. Visual inspection of the outside cover should include looking for nicks, cuts, and tears.
  - b. Inspect the cover to see if it has been flattened or crushed.
  - c. Visually check the thimbles for any damage. Check the rope splice and the portion of the rope inside the thimbles at both ends. Ensure that the epoxy coating is in place.
  - d. Inspect the inside Plasma rope at intervals of 30 feet. Open the Velcro cover and inspect the rope by placing your thumbs together approximately 3" apart and push together. The rope will open inside. Look for broken strands, flattening or spots that may look shiny. These are indications of heavy usage and wear. If any of these conditions are observed the longline shall be removed from service and returned to the manufacturer for recertification.
2. Keep away from solvents, gas, diesel fuel, dirty water, sawdust and any foreign materials that may damage the rope. Check for unusual discolorations that could indicate chemical contamination.

3. Never wash the rope or cover with “orange” soap (liquid detergent).
4. Coil the longline in a figure 8, one circle on top of the other, for storage.
5. Do not wrap or tie tape or adhesive products directly to the Plasma rope.

E. Storage:

1. Store the longline in a clean, dry location, away from heat and out of direct sunlight.
2. The longline should be stored in the rope bags away from batteries and chemicals.
3. If the ropes are wet, they should be allowed to dry in a well ventilated location out of direct sunlight.
4. Never store the rope on bare concrete floors. Acids are often used in concrete work and can remain on the surface.
5. Never step on the rope, drive over the rope or allow the helicopter to land on the rope. If any of these occur, inspect the rope for damage and note the event.

F. Shock Loads:

Shock loads are simply a sudden change in tension from a state of relaxation or low load to one of a high load. Any sudden load that exceeds the workload by 10% is considered a shock load. The further an object falls, the greater the impact. Synthetic fibers have memory and the effects of the shock loading remain with time and can result in failure even when loaded within the normal range.

G. Longline Retirement:

There are no industry standards or guidelines to establish when a rope should be retired from service. The following conditions indicate damage requiring retirement of the longline. Whenever these conditions are observed, the longline shall be returned to the manufacturer for inspection and recertification. Any longline failing the inspection and recertification shall be retired from service immediately.

1. Abrasion - When the longline is first put into service, the outer filaments of the rope will quickly fuzz up. This condition is the result of these filaments breaking and the roughened surface actually forms a protective cushion and shield for the fibers underneath. This condition should stabilize and not progress. If the surface roughness of the rope increases, excessive abrasion is occurring and the strength of the rope is being lost. As a rule for braided ropes, when there is a 25% or more wear from abrasion, the rope should be retired.
2. Compaction - Any rope that has become hard and compacted indicates reduced strength and should be retired.
3. Heat Damage - Glazed or glossy areas on the rope indicated damage and decreased strength. Any rope in this condition shall be retired.
4. Inconsistent Diameter - Any rope containing flat areas, bumps or lumps can indicate core or internal damage from overloading or shock loads. Any rope in this condition shall be retired.
5. Discoloration - Discoloration of the rope indicates damage resulting from possible chemical contamination. Determine the source of the contamination. Retire the rope if it is brittle or stiff.
6. Splice Movement - The rope will be retired if the splice slippage exceeds 2".

#### 4.7 Grapple Hook

The Grapple Hook is authorized for use with LESH longline operations, not to include human external cargo. The Grapple Hook is authorized as an option to the Remote Cargo Hook.

##### A. Specifications:

1. The Grapple Hook is to be constructed of 3/4" rolled steel and is manufactured pursuant to design as represented in California Prison Industries Authority (PIA) #P01-0424.
2. The Grapple Hook shall be painted orange in color for high visibility to both the pilot and the ground personnel.
3. The Grapple Hook shall be used only for the transportation of cargo by net or Cobiner Choker Rope. No human external cargo (LESH) is permitted on the Grapple Hook.

##### B. Use:

1. The Grapple Hook is intended to be an alternative longline tool to be used in lieu of the remote cargo hook.
2. The Grapple Hook may be used to carry either cargo nets or bundles of marijuana secured by the Cobiner Choker Rope.

3. When using the Grapple Hook in the field, personnel should always reach for the closest tine, not the shaft. Attempting to grab the shaft may result in the sleeve being caught on the tine and result in injury to the officer.

C. Care and Maintenance:

The Grapple Hook shall be inspected daily prior to use by either the Helicopter Manager or LESH Master. The inspection shall look for:

1. Visibility (need to be repainted).
2. Integrity of the eye and the tines.
3. Presence of burrs or sharp edges on the hook.

#### 4.8 Cobiner Choker Rope

The Cobiner Choker Rope is authorized for use with the Grapple Hook during LESH longline operations.

A. Specifications:

The Cobiner Choker Rope shall be constructed of ½" nylon rope. The rope will be approximately 15' in length and will have an 8" eye spliced into one end. The other end will have a steel pear link spliced into the end.

B. Use:

1. The Cobiner Choker Rope is intended to be used with the Grapple Hook and may be used in lieu of a cargo net.
2. For small loads (within the limits established by the load calculation) the Cobiner Choker Rope may be attached to the J-hook and extracted in conjunction with personnel.
3. Caution should be used so as not to over load the Cobiner Choker Rope. Overloading may result in the loss of part of the load in flight or an excessive weight condition on the aircraft.

C. Care and Maintenance:

1. The Cobiner Choker Rope shall be inspected weekly by the Helicopter Manager. The inspection should cover the following items:
  - a. Integrity of the rope and splices. Ropes with strands that have been cut shall be retired from service.
  - b. Integrity of the steel pear link. Ropes with damage to the pear link shall not be used until repairs have been completed.

2. The Cobiner Choker Rope may be cleaned periodically by placing it into warm water containing a capful of Simple Green cleaner. The rope should be agitated in the water to allow dirt and debris to fall out of the strands. The rope should be air dried out of direct sunlight.

#### 4.9 Master Swivel Requirements, Care, and Use

##### A. Requirements:

1. The Master Swivel shall have a minimum rated breaking strength of 10,000 pounds.
2. A nongated Master Swivel shall be connected to the “working end” thimble of the plasma line assembly.
3. The top of the Master Swivel shall be attached to the “working end” of the oval link from the plasma line assembly.
4. The bottom of the Master Swivel shall have a “pear-shaped” link  $\frac{3}{4}$  inch in diameter. This “pear link” shall be known as the “master link.” The standing end of the “A” Frame will be attached to the “master link.”
5. Ensure that cotter pins are installed in the cotter pin holes of the bolt to prevent the nut from backing off the bolt.
6. The Master Swivel also serves as a “weight ball” when the plasma line does not have a load at the end. The weight of the swivel will help to ensure that the longline assembly does not become entangled in the tail rotor while in flight.
7. The Master Swivel that is connected to the longline assembly can be used to haul cargo loads within the weight and performance limitations of the aircraft.
8. A 25-pound weight may be added to the longline if additional weight is required by the pilot. The line weight is manufactured by Yates Gear Inc. for LESH.

##### B. Care and Use:

1. All loads will be lifted slowly to avoid “shock” loading the Master Swivel.
2. Avoid rough handling; do not drop or drag the swivel.
3. The swivel will be inspected prior, during and after each use.
4. Periodically grease the Master Swivel at the grease fitting with enough lithium-based grease to purge the seal.
5. Ensure the Master Swivel spins freely.
6. The Master Swivel will be stored with the longline assembly and not detached from the plasma line assembly.
7. The LESH Master will maintain inspection records on the Master Swivel.

#### 4.10 "A" Frame Assembly Requirements, Care, and Use

##### A. Description of Yates "A" Frame Stitched Bridle Assembly:

1. The "Yates 'A' Frame Bridle" assembly consists of two "A" Frame Bridles stitched together with one Umbilical Strap, sewn to OSHA Standard 1910, American Society for Testing and Material (ASTM) Standard Z359.1-1992, and ANSI Standard A10.14-1991. The Umbilical webbing used is Nq280, one inch flat, black in color, with strength of 6,000 pounds. The "A" Frame webbing X868 is one inch flat lanyard webbing, yellow in color with red cut markers for detection. The minimum breaking strength is 9,800 pounds.
2. The upper "A" Frame carabiner is a fixed dye DMM Steel safe lock safe carabiner. The minimum rated strength is 10,000 pounds. The lower connecting "hooks" are 6650 Snap Hooks, self/double locking. Minimum strength of 5,000 pounds, 100% proof loaded hooks. The Umbilical Screw Link in N-080-SS stainless steel quick link with a minimum strength of 12,000 pounds and a load limit of 2,500 pounds.

**Note: The Yates "A" Frame Bridle Assembly as designed is superior to the standard rope "A" Frame Assemblies due to stitching, strength test, inspection, and reduction in human error factors.**

##### B. Care and Use:

1. LESH Master will ensure that the "A" Frame assembly does not exceed working load limitation, or weight limitations.
2. The LESH Master will ensure the "A" Frame assembly does not come in contact with petroleum products, acids or chemical vapors.
3. The "A" Frame assembly will be stored in a clean and dry environment.
4. The "A" Frame assembly will be washed once a week with warm water and Simple Green.
5. LESH LEO will ensure that the "A" Frame does not come in contact with sharp or abrasive materials.
6. LESH Master will ensure that the "A" Frame assembly is only used for human external cargo operations.
7. Any "A" Frame assembly irregularities (cuts, stretch marks, abrasions) require that the "A" Frame assembly be destroyed.
8. The LESH Master will maintain documentation on the "A" Frame Assembly.
9. Avoid stepping or dragging rope or webbing on abrasive surfaces.
10. The "A" Frame assembly will be stored in clean, dry, cool conditions.

C. "A" Frame Inspection Procedures (reference: *Interagency Helicopter Rappel Guide* (IHRG)):

1. The LESH Master will closely look at the "A" Frame assembly. Specifically, the inspector will look for discoloration, cuts, nicks, chemical contamination, rope or webbing bumps, evidence of melting, or mushy feeling, or visible differences in the diameter or width of the ropes.
2. The LESH Check Master/Safety Officer or LESH Master will closely inspect the "A" Frame at the start of each season.
3. The LESH Master will inspect the "A" Frame assembly before, during and after each day's use. The LESH Master will document the inspection and use of the "A" Frame assembly.
4. After 1 year, the "A" Frame Assembly will be retired and destroyed.

**WARNING: THE "A" FRAME ASSEMBLY IS AN ESSENTIAL PIECE OF SAFETY EQUIPMENT AND MUST BE CHECKED BEFORE, DURING AND AFTER EACH USE. SOMEONE'S LIFE MAY DEPEND ON IT.**

## CHAPTER 5

### Operational Requirements and Duties

#### 5.1 LESH Check/LESH Master/Safety Officer

##### A. Duties and Procedures:

The LESH Check/LESH Master/Safety Officer are responsible for ensuring that all LESH operations are conducted within agency policy and procedures. The LESH Check/LESH Master/Safety Officer are responsible for reviewing and making recommendations for all LESH operation-related incidents for investigations. The LESH Check/LESH Master/Safety Officer will conduct periodic inspections. The LESH Check/LESH Master/Safety Officer will inspect LESH operations for:

1. Pilot certification and competency.
2. LESH Master qualifications and competency.
3. LESH LEO qualifications and competency.
4. Compliance with agency policies and procedures for LESH operations.
5. Equipment use, care, and maintenance.
6. Documentation and record keeping.

**Note: The LESH Check/LESH Master/Safety Officer have full authority to suspend or cancel LESH operations when LESH LEO are not operating within agency policy and procedures.**

#### 5.2 Pilot

##### A. Duties and Procedures:

1. Pilots shall prepare a Helicopter Load Calculation for every LESH operation mission in accordance with the requirements and instructions found in the *Interagency Helicopter Operations Guide (IHOG)*.
2. Pilot shall conduct a preflight inspection of aircraft and LESH Rigging installations and attachments.
3. Pilot will ensure that he or she has internal/external communications from the aircraft.
4. Pilot will participate in the mission briefing to include evaluation and participation in the risk assessment.
5. Pilot will follow LESH operation policies and procedures during LESH operations.

**Note: The Pilot has full authority to accept or deny LESH missions.**

B. In-Flight Duties:

1. Establish and maintain flight following communications.
2. Maintain aircraft at a suitable speed and vertical height to minimize risk during transportation of LESH LEO.
3. Select a landing zone with concurrence from the LESH Master.
4. Evaluate the site for:
  - Proximity to incident
  - Safety and hazards
  - Size
  - Slope
  - Rotor clearance
  - Wind conditions
  - Ground and aerial hazards
  - Approach and departure routes
  - Non-incident personnel in the area
5. Complete a "Hover Check" (Hover Out of Ground Effect (HOGE)) and communicate to LESH Master "Go/No Go" decision.
6. Hover the aircraft over site and slowly insert LESH LEO into site.
7. Observe and communicate with LESH Check Master/Safety Officer regarding progress and release of LESH LEO, vertically lift plasma line and "A" Frame assembly slowly to avoid problems.

5.3 LESH Master

A. Duties and Procedures:

1. Function as the Resource Helicopter Manager, as defined within chapter 2 of the IHOG, for all operations involving DOI LESH.
2. Preflight LESH Master duties:
  - a. Inspect LESH LEO qualifications, records, and equipment documentation.
  - b. Inspect all LESH equipment and personal protective equipment.
  - c. Provide a LESH Operation Briefing for the Pilot, LESH LEO and Helicopter Manager that at a minimum includes:
    - Nature of mission
    - Location, terrain, and insertion site
    - Weather conditions
    - Hazards and tactical considerations
    - Safety considerations
    - Individual responsibilities
    - Emergency procedures
    - Risk assessment

- Cut/no cut policy and procedures
  - Situation awareness
  - Load calculations/aircraft performance
  - ALSE waivers
- d. Review pilot load calculations to ensure operations which do not exceed the aircraft's weight limitations or performance capabilities.

**Note: DOI LESH LEO will not independently participate in LESH operations without an agency-approved LESH Master onsite.**

B. As directed by the Pilot, the LESH Master prepares the Aircraft for LESH:

1. Remove nonessential items from the aircraft.
2. Attach the LESH longline assembly to the cargo hook (test internally/externally). Ensure the plasma line "standing end" oval ring freely rests on cargo hook with no interference from "3 Ring Release, SHAPE System" carabiner connections under aircraft.
3. Install and inspect the "3 Ring Release" with locking carabiners in place and locked.
4. Inspect and layout the LESH line assembly. Ensure that there is no potential for entanglement, and that the haul line is laid out so that the pilot has full visual over the line.
5. Inspect webbing, carabiners into swivel, and haul line connections.
6. Inspect and layout the "A" Frame Assembly and carabiners or snap hooks.
7. Inspect rope protectors.
8. Check internal/external helicopter communications.
9. Oversee and ensure Buddy Check of LESH LEO personnel.
10. Reinspect installations and attachments.
11. Test the aircraft's cargo hook (internal/external releases).

C. Preparation and Liftoff Procedures:

1. LESH LEO Personnel Buddy Check.
2. If positioned in the aircraft, secure and attach LESH Master safety tether to helicopter and anchor point.
3. Ensure communications among pilot, LESH Master and LESH LEO.
4. Evaluate and inspect helicopter vertical liftoff to a hovered position over extended LESH line to LESH LEO.
5. Request from pilot "Hover Check," Go/No Go decision.
6. Inspect LESH LEO lock in.
7. Inform the pilot that LESH configurations are ready for LESH.
8. Maintain constant visual observation of LESH LEO hand signals for liftoff.

9. (If in aircraft) Maintain constant communications with the pilot as to progress of liftoff (HOT MIC).
10. Advise the pilot when LESH LEO are off the ground, and clear of any hazards or obstacles.

**Note: The LESH Master must inspect the anchor point and the LESH Master's equipment to include harness, rescue knife, helmet, and tether point.**

D. In-Flight Duties (if in Aircraft):

1. Maintain flight following and visual observation of LESH LEO while in flight.
2. Serve as a second set of eyes for the pilot to assist with navigation and hazard identification.
3. Inform the pilot of any in-flight emergencies or difficulties with the LESH LEO.

E. Insertion Duties (if in Aircraft):

1. Assist the pilot with vertical distances and references to ground as the helicopter settles into the site. Provide pilot with distances to the ground as pilot inserts LESH LEO.
2. Inspect site for hazards, slope, wind conditions, and rotor clearance.
3. If needed, make "Hover Check" and "Go/No Go" decision request of pilot.
4. Monitor LESH LEO signals and inform pilot as to progress of insertion.
5. Inform the pilot when "A" Frame assembly is on or near the ground.
6. Inform the pilot when the LESH LEO have released and cleared themselves from "A" Frame.
7. Monitor and inform the pilot as to progress of the "A" Frame extraction.
8. Confirm communications with the inserted LESH LEO.
9. Direct the pilot to return to the departure point.

F. Extraction Duties (if in Aircraft):

1. Before leaving Landing Zone (LZ), reinspect LESH installations and attachments.
2. Reconfirm radio communications internally/externally.
3. Radio confirm with LESH LEO that they are ready for extraction.
4. Radio confirmation that LESH LEO have conducted a "Buddy Check" for extraction.
5. Inquire with LESH LEO as to any changes in weather, slope, hazards, or wind conditions.
6. Advise of an estimated time of arrival (ETA) over site, and announces "One Minute Out."
7. As aircraft hovers over site, request "Hover Check" and "Go/No Go" status from Pilot.
8. Visually inspect "A" Frame Assembly insertion into site.

9. Visually inspect for rotor clearance or any other potential hazard for Pilot.
10. Monitor progress of "A" Frame assembly reattachment to LESH LEO.
11. Advise Pilot when LESH LEO have signaled for extraction.
12. Monitor vertical lifting of LESH LEO from site.
13. Confirm with LZ that LESH LEO status and returning.
14. Monitor LESH LEO in flight returning to LZ.

G. Preparation for Landing:

1. After LESH LEO have signaled that they are disconnected from the A Frame.
2. Advise Pilot of any known hazards for landing preparation.
3. Monitor longline, "A" Frame assembly as aircraft prepares to land.
4. Assist the pilot in ensuring adequate rotor clearance and vertical references.

H. Post Landing:

1. Debrief pilot and LESH LEO.
2. Reinspect and prepare LESH installations and attachments for next mission.
3. Prepare daily reports.
4. Update the mission risk analysis.

#### 5.4 LESH LEO

A. Duties and Procedures:

1. Demonstrate knowledge and competency with equipment setup and preparation.
2. Personally inspect all personal protective equipment.
3. Participate in the Mission Briefing from LESH Master.
4. Participate in the evaluation of the LESH Risk Assessment for the mission.
5. Conduct a 10-point "Buddy Check" on LESH LEO partner.
6. Communicate to Pilot and/or LESH Master that "Buddy Check" is satisfactory for both partners.
7. Check and ensure clear radio communication capability with pilot, LESH Master and other ground personnel.
8. Ensure adequate clearance between LESH LEO and aircraft.
9. Properly attach Carabiners to "A" Frame assembly.
10. Signal to Pilot and LESH Master that they are ready for liftoff.
11. Continue signaling as aircraft lifts off and watching aircraft to a vertical hover position.
12. Lock legs with partner as lifted off ground, hand signaling progress of lift.
13. Signal when clear for forward flight.

B. 10-Point Buddy Check

Conducting a 10-point “Buddy Check” on LESH partner will consist of the following:

1. Helmet (chinstrap secure)
2. Goggles (in place and snugly fitting)
3. PPE (clothing and accessories snugly fitted, secured and latched, no loose items)
4. Gloves (sleeves over gloves and fastened)
5. Harness (properly fitted (front and back)
6. Leg straps (secure fastened high and snugly)
7. Buckles (secured and attached)
8. Snap hooks (locked and attached properly to “A” Frame)
9. Rescue knife (easily accessible, sheath in place and lanyard attached)
10. Boots (DOI approved, laced and covered by pants)

C. In-Flight Duties:

1. LESH LEO should face each other and avoid extraneous motion while in flight.
2. Maintain visual observation of aircraft and vertical references to ground.
3. Begin hand signals as aircraft hovers over site.
4. Visually inspect insertion site for:
  - Hazards
  - Slope
  - Wind
  - Rotor clearance
  - Insertion site
5. Continue or discontinue insertion with hand signals.

D. On-The-Ground Duties:

1. Signal by hand that LESH LEO are on the ground.
2. Disconnect Snap-Links from “A” Frame assembly.
3. LESH LEO hand signal that both are disconnected.
4. Step aside to allow “A” Frame assembly to be removed by aircraft.
5. Monitor radio, communicate progress of “A” Frame assembly being vertically lifted out of site.

E. Extraction Duties:

1. Communicate to LESH Master or Helicopter Manager that LESH LEO are ready for extraction.
2. Conduct 10-point “Buddy Check” on partner.

3. Communicate to Pilot and/or LESH Master your current location, conditions and availability for extraction, wait for "One Minute Out" communication from aircraft.
4. Allow aircraft to settle over extraction site for Pilot/ LESH Master site inspection.
5. Request approval for extraction.
6. Step aside to allow "A" Frame assembly to touch the ground.
7. Connect carabiners to "A" Frame assembly and "Buddy Check" partner for lock in.
8. Face each other, hand signaling to aircraft.
9. Begin hand signals for extraction.
10. Prepare for vertical extraction with hand signal instructions.

## 5.5 LESH Hand Signals

The following standard LESH hand signals will be used.

- |    |                 |   |
|----|-----------------|---|
| 1. | Move upward     | (Arm extended - circular motion)  |
| 2. | Move downward   | (Arm extended - sweeping down)  |
| 3. | Detach/discount | (Arm sweeping across neck, palm down)                                   |
| 4. | Hold hover      | (Arm extended - with clenched fist)                                     |
| 5. | Move forward    | (Extended arm forward - move arm toward you)                            |
| 6. | Okay or clear   | (Hand tapping top of head)  |
| 7. | Hookup now      | (Clasped hands - with extended elbows)                                  |
| 8. | Abort, down now | (Wave off - waving arms crossed overhead)                               |
| 9. | Disconnect now  | (Slash arm - right arm making cutting motion against extended left arm) |

## CHAPTER 6

### In-Flight Emergencies

Established procedures used to respond to a situation, serious in nature, developing suddenly or unexpectedly, and demanding immediate action.

#### 6.1 Helicopter at a Hover with Control and Power Maintained

This situation may be indicated by caution detector or chip light coming on, gradual oil pressure loss, hydraulic boost pump failure, etc. The following LESH procedures apply: (reference: *Interagency Helicopter Rappel Guide (IHRG)*)

##### A. Pilot Response:

1. As soon as possible, set aircraft on ground at suitable location.
2. Pilot prepares to release 12 Strand Plasma Line Assembly, if required.
3. Declare a mechanical problem to LZ and LESH Master.

##### B. LESH Master Response (if On Board Aircraft):

1. LESH Master immediately takes a seat, fastens seat belt, and assumes crash position.
2. LESH Master monitors rotor clearance and vertical references.
3. LESH Master informs pilot when personnel are on the ground.

##### C. LESH LEO Response:

1. LESH LEO must rapidly unhook or cut lines and seek protection away from aircraft.

#### 6.2 Helicopter Loss of Control or Loss of Power

Any loss of control or loss of power will pose a significant risk, especially during LESH operations (reference IHRG and IHOG).

##### A. Pilot Response:

1. Attempts to get LESH LEO on the ground before releasing LESH line.
2. Attempts to maneuver the helicopter away from personnel on the ground.
3. Releases the "3 Ring Release System."
4. Declares an emergency "Mayday" calls to LZ.

- B. LESH Master Response (if On Board Aircraft):
  - 1. LESH Master immediately takes a seat, fastens seat belt and assumes crash position.
- C. LESH LEO Response:
  - 1. Cuts away "A" Frame Assembly rope.

**WARNING: A HELICOPTER LOSS OF POWER OR CONTROL COULD BE FATAL TO INDIVIDUALS ON THE ROPE AND IN THE AIRCRAFT. THE POSSIBILITY MUST BE DISCUSSED, IN DETAIL, WITH THE PILOT (S), HELICOPTER MANAGER, LESH MASTER, AND LESH LEO ON FREQUENT BASIS.**

### 6.3 LESH In-Flight Equipment Failure

In the event of a LESH in-flight equipment failure, the mission shall be immediately aborted. For example, the pilot accidentally releases the cargo hook, and the "3 Ring Release System" is holding the haul line. The pilot will find the nearest location to land the aircraft and take immediate corrective action.

### 6.4 Problems on the Ground

In the event the Pilot, LESH Master, or LESH LEO determines a problem with aircraft readiness, LESH rigging or equipment, the mission will be terminated until the situation is resolved. It is the responsibility of the Helicopter Manager and LESH Master to rectify any problems on the ground before the mission is approved.

### 6.5 LESH Incident Reporting

- A. LESH Incident/Accident (Reporting and Investigation):
  - 1. It is the responsibility of all LESH LEO to report incidents / hazards that occur to the LESH Master or Helicopter Manager as soon as possible. Notwithstanding the requirement to report incidents to the LESH Master, LEO or any other person has the right and the responsibility to report aviation hazards using the SAFECOM system.
  - 2. The DOI LESH Master or Helicopter Manager is responsible for verbally reporting helicopter LESH incidents to the LESH Check/LESH Master/Safety Officer within the same day of the incident and it is recommended that a SAFECOM report be submitted. A detailed written report shall be submitted to the LESH Check/LESH Master/Safety Officer within 24 hours of the incident. The report shall be prepared by the DOI LESH Master.

3. The DOI LESH Check/LESH Master/Safety Officer will notify the Operations Commander and the Air Operations Chief of the incident.
4. The DOI LESH Check/LESH Master/Safety Officer will be responsible to review and investigate all LESH-related reports of incidents that occur during LESH operations. Supervisors will not require subordinates to route SAFECOM through them for approval, prior to submission.
5. Pursuant to existing DOI and Bureau policy, so that personnel in other parts of the country may benefit from any learning experiences resulting from the incident, DOI law enforcement officers at scene are encouraged to report hazards /incidents as follows:
  - In the event of an incident where any damage to the aircraft or injury to personnel occurs, immediately notify NBC-AMD Aviation Safety Office by calling 1-888-4MISHAP (888-464-7427).
  - Use of the Interagency Aviation Mishap Response Guide and Checklist (NFES 2659) is encouraged.
  - All aviation hazards should be reported by submitting a “SAFECOM” ([www.safecom.gov](http://www.safecom.gov)).
  - Bureau law enforcement chain of command will be notified per bureau policy.

**Note: Employees shall direct incident reports involving damage or injury and SAFECOM directly to the AMD or the SAFECOM system with copies to supervisors.**

## CHAPTER 7

### Stokes Litter Operations

#### 7.1 Stokes Litter

A Stokes Litter will be onsite, “rigged,” and ready for use at all times during all LESH operations. While the primary need for the litter is for medical evacuation of injured personnel or prisoners, under certain conditions, it may also be used for prisoner transport. Use of the litter for prisoner transport will be made onsite by the Regional Operations Commander (ROC) after consulting with the Helicopter Manager, the pilot, the LESH Master and the ROC and assessing the risks against the potential benefits.

It will be the responsibility of the LESH Master and the Helicopter Manager to rig the Stokes litter. Both shall be responsible for checking each other’s “rigging” prior to the start of all operations.

When the Stokes litter is used for either injured or prisoner transport, the ROC shall verbally notify the Operations Commander and LESH Check/LESH Master/Safety Officer as soon as practical. The incident should also be noted on the Daily Report sent to CAMP/CERT HQ. The Operations Commander may also require a full written report of the incident if deemed necessary. The ROC shall be responsible for preparation of any required reports.

Transport of DOI prisoners using a Stokes litter will be reported by DOI LEO to the LEO chain of command and annually to the LESH Working Group.

#### 7.2 Specifications

The Stokes litter shall be of a standard Search and Rescue (metal basket) litter design that is configured for horizontal extraction. The litter shall be attached to a CMC (type) “Anchor Plate” utilizing standard 2-inch heavy-duty “Litter Rigging” straps and hardware. An adjustable 2 to 1 (mechanical advantage) “Pick-off” strap will be used by an “attendant” accompanying the litter.

Use of an “attendant” will be mandatory during all prisoner extractions, and on a case-by-case basis for medical aid use. The latter decision will be made by the ROC after consulting with the emergency medical technician (EMT) attending to the injured party. The litter shall be marked to indicate all four (4) carabiner attachment points. A Tail Rope “Tag Line” will be attached to the “foot end” of the litter to control and/or prevent a “spinning litter.”

**Note: Use of the Stokes litter will require recalculation of the aircraft performance using the Interagency Load Calculation method.**

### 7.3 Use and Care

All LESH Masters and Helicopter Managers shall be proficient in the proper rigging of and inspection of the litter and associated hardware to the Master-Link. It is the responsibility of the Helicopter Manager and LESH Master to inspect and ensure that the litter is prepared and equipped for deployment prior to the start of all LESH operations.

## CHAPTER 8

### “Shape” System Parachute

#### 8.1 Description

The **Short Haul Escape** (SHAPE) Emergency Parachute System has been specifically designed for LESH operations. The purpose of the system is to provide LESH LEO a means to be jettisoned from the aircraft during an emergency situation, e.g., catastrophic mechanical failure of the aircraft. While the system is not guaranteed to work in every circumstance or situation, it does provide a chance to survive an emergency deployment in the event that it is needed.

The system consists of a 30-foot (diameter) parachute. The pack is sewn shut, and a 2” flat nylon webbing, attached to the parachute’s “main risers” exits the pack. The pack is attached externally to the belly of the helicopter, just aft of the belly hook.

The system is designed to place a 500-pound load on the ground from a minimum deployment altitude of 300 feet above ground level (AGL) to the officer’s feet.

While the parachute’s flight is not capable of being controlled once it has been deployed, it does offer the officers a good chance of a survivable landing. Injuries may range from bumps and bruises to major and/or fatal injuries, depending on the altitude deployed from and the landing area.

#### 8.2 Rigging

When rigged for use, all normal haul-line configurations remain the same. The nylon strap that exits the pack is (then) attached to the top of the haul-line, “Oval-Link” in a “slack condition.” In the event that it becomes necessary, the pilot will activate the 3-ring release system in preparation for the final jettisoning of the haul-line. While every effort will be made to place the human external cargo (HEC) (LESH LEO) on the ground, the pilot will have the sole decision to jettison the HEC.

#### **DEPLOYMENT OF THIS SYSTEM MAY RESULT IN FATAL INJURIES TO THE HUMAN EXTERNAL CARGO.**

The parachute pack will be attached to the bottom of the aircraft by means of two (2) flat nylon straps that run through the rear passenger compartment of the aircraft. The straps draw the parachute pack up to the belly of the aircraft. Care must be taken to ensure that the opening of the pack is facing aft on the aircraft and is not interfered with by the cargo hook.

The LESH Master will be responsible for installing the SHAPE System on the aircraft before the start of each day's operations. Both the Helicopter Manager and Pilot shall check the rigging of the parachute.

The SHAPE System parachute shall be installed on the aircraft each day that LESH operations are conducted. The only exception will be when a 60-foot longline is utilized for low vegetation operations or training.

### 8.3 Care and Inspection

The LESH Master shall have the sole responsibility for the care and maintenance of the SHAPE System parachute. The parachute pack and straps shall be inspected daily and documented.

When not in use on the aircraft, the parachute pack shall be stored in its case in a location that is free from contact with oils, solvents and corrosive materials. The pack and straps should be inspected for cuts or other damage.

If any damage is noted, the parachute pack shall be removed from service and the LESH Check/LESH Master/Safety Officer shall be notified immediately.

Further LESH operations without the SHAPE System parachute may only continue with the approval of the Operations Commander after consultation with the LESH Check/LESH Master/Safety Officer.







9.4 Inspection Log for 12 Strand Plasma Line, 3 Ring Release, and "A" Frame

**DOI LAW ENFORCEMENT SHORT HAUL**

**DAILY INSPECTION LOG FOR**

**12 STRAND PLASMA LINE, THREE RING RELEASE AND "A" FRAME**

DATE: \_\_\_\_\_

REGION: \_\_\_\_\_

PLASMA LINE #	COMMENTS

3 RING RELEASE #	COMMENTS

"A" FRAME	COMMENTS

INSPECTED BY: \_\_\_\_\_  
(PRINT)

\_\_\_\_\_  
(SIGNATURE)



## CHAPTER 10

### K-9 Short Haul

Short haul insertion and/or extraction of K-9s may be utilized to help expedite the need of K-9 resources and/or K-9 safety and well being. Use of this method will be decided by both the (onsite) Incident/Operations Commander and the respective K-9 Handlers AFTER weighing all the risk factors with respect to use and deployment of K-9s.

#### K-9 Short Hauls:

- Prior to the start of any short haul operation, the respective K-9 Handlers will participate in the preoperations safety briefing when there is ANY potential that a K-9 may be utilized during short haul operations, whether planned or not.
- Unless a K-9 Handler specifically asks for help during hookup or unhooking procedures, NO other officer will attempt to help. All personnel will remain well clear until the Handler says it is OK to come closer.
- Unless specifically requested and approved by the K-9 Handler(s), no other officers will fly into or out of a site with the Handler when a K-9 is on the haul line.
- In some cases, a second officer may be needed to provide security while the K-9 Handler unhooks the K-9 or while removing the K-9's harness for deployment.
- All K-9s may be muzzled prior to and during all flights at the discretion of the K-9 Handler and the LESH Master.
- The K-9 Handler should provide for eye and ear protection for the K-9; use will be at the discretion of the K-9 Handler and the LESH Master.
- When a K-9 Handler provides his or her equipped flight weight to the LESH Master and/or Helicopter Manager for allowable payload calculations, the K-9 Handler will include the weight of the K-9 and associated harness equipment with their own overall equipped weight.
- The K-9's attachment device will be independently hooked to the plasma line at the "Master Swivel"; any deviation, such as attachment to the Handler, will be at the discretion and concurrence of the K-9 Handler and the LESH Master.
- The K-9 Handler and LESH Master will determine and must concur as to the method and order for attaching and detaching the dog and Handler for each flight.

## APPENDIX A

### Operational Risk Management and Safety Analysis

**1. Introduction.** All marijuana eradication missions, whether they involve driving and then walking, flying to a landing zone and then walking, or using short haul techniques, involve unique hazards and varying degrees of risk. All operations require decisions that include ASSESSING as well as MANAGING risk. Each law enforcement officer (LEO), along with their supervisor(s), is responsible for identifying potential risks and adjusting or compensating accordingly. Risk decisions must be made at a supervisory level commensurate with the degree of risk. These decisions must take into consideration the significance of the mission, the timeliness of the required decision, the consequence of failure, alternative methods to accomplish the mission, and the decision-maker's knowledge of the mission. The risk decision authorization level is established by policy (see paragraph 2.3).

REMEMBER - The goal of managing risk is to increase the opportunity for mission success while reducing the risk to personnel and resources to the lowest practical level.

**1.1. Managing risk is a standard element of our operational doctrine.** Uncertainty and risk are natural parts of all operations. Success in law enforcement aviation operations often involves taking bold, decisive, and timely action, which in turn requires a willingness to identify and control or accept the associated risk(s). Carefully identifying, analyzing, and controlling hazards and executing a supervised plan that accounts for these hazards contributes to the success of our mission.

**1.2. Risk management is not a new way of doing business.** Aviation personnel in the natural resource world have been trained and have, with varying degrees of success, applied the risk management philosophy and methods intuitively for years. The operational risk management (ORM) process allows for greater and more consistent results by using a systematic method rather than relying solely on experience and intuition.

**2. Principles of Managing Risk.** Four principles govern all actions associated with managing risk. Using these principles before, during, and after all operations increases mission effectiveness and reduces risk.

**2.1. Accept Risk When the Benefits Outweigh the Costs.** During each marijuana eradication mission, it is imperative that the risks of short hauling be evaluated against driving/walking or flying/landing/walking. All identified benefits should be compared to all identified costs (risks). The process of weighing risks against opportunities and benefits helps to maximize operational capability. Even high-risk endeavors may be undertaken when there is clear knowledge that the sum of the benefits exceeds the sum of the costs. Documentation of the pre-mission risk management process using the risk assessment worksheet will help leadership to understand why certain risk decisions were made. Ultimately, the decision on whether to accept or decline a risk will be determined by the appropriate decision authority (see paragraph 2.3).

**2.2. Accept No Unnecessary Risk.** Marijuana eradication missions involve risk, regardless of the mode of transportation that is used to get to the site. An unnecessary risk is a risk that comes without a commensurate return in terms of real benefits or available opportunities. While short hauling exposes personnel to certain risks, it also eliminates and reduces many other risks. An example of an unnecessary risk would be to use short haul techniques when a safe landing zone is in close proximity to the grow site.

The corollary to this rule is to "accept risk when necessary." Accepting some amount of risk is required to successfully complete any mission or task.

**2.3. Make Risk Decisions at the Appropriate Level.** Making risk decisions at the appropriate level establishes clear accountability. Those accountable for the success or failure of the mission must be included in the risk decision process. Supervisors and managers at all levels must ensure subordinates know how much risk they are allowed to accept and when they must elevate the decision to a higher level. The appropriate management level for approval of DOI Law Enforcement Short Haul missions is based on the residual level of risk and is listed below:

**2.3.1. Extremely High** - Must be approved in writing by the Bureau Director(s).

**2.3.2. High** - Must be approved in writing by a Bureau leader(s) at the Senior Executive Service (SES) level.

**2.3.3. Medium** - Must be approved in writing by the Supervisor for the Law Enforcement Officers involved.

**2.3.4. Low** - Must be approved in writing by the Law Enforcement Officer involved.

**2.4. Integrate ORM into Organizational Doctrine and Planning at all Levels.** DOI Law Enforcement Short Haul missions will use the Risk Management Worksheet (figure 1) during the mission planning process to document the ORM process (hazard identification, risk assessment, mitigation measures and risk approval authority). Following the mission the success and/or failure of the individual control measures will be reviewed and documented on the Risk Management Worksheet for future use.

DEPARTMENT OF THE INTERIOR				RISK MANAGEMENT WORKSHEET					
1. Organization and Location: Department of the Interior (DOI) Law Enforcement (LE) Short Haul (SH) Program						2. Page	1	of	1
3. Operation/Task: Program Risk Assessment for DOI participation in California Department of Justice Law Enforcement Short Haul operations.				4. Date Begin: April 8, 2009	5. Date End: April 9, 2009	6. Date Prepared: April 24, 2009			
7. Prepared by: (Name/Duty Position): DOI Law Enforcement Short Haul Working Group (WG)									
8. Identified Hazards:	9. Initial Risk:	10. Developed Control Measures for Identified Hazards:	11. Residual Risk:	12. How to Implement Controls:	13. How to Supervise				
15. Remaining Risk Level After Countermeasures Are Implemented: (CIRCLE HIGHEST REMAINING RISK LEVEL) →		LOW Law Enforcement Officer involved	MEDIUM Supervisor for Law Enforcement Officers involved	HIGH Must be approved in writing by a Bureau leader at the Senior Executive Service (SES) level	EXTREMELY HIGH Must be approved in writing by the Bureau Director.				
16. RISK DECISION AUTHORITY: (Approval Authority Signature Block)(If Initial Risk Level is Medium, High or Extremely High, Brief the Risk Decision Authority at that level on Controls and Countermeasure used to reduce risks.)									
Note: If the person preparing the form signs this block, the signature indicates only that the appropriate risk decision authority was notified of the initial risk level, control measures taken and appropriate resources requested)									

**Figure 1. Sample Risk Management Worksheet.**

**3. The Five-Step Operational Risk Management Process.** ORM is a continuous process designed to detect, assess, and control risk while enhancing performance and maximizing operational capabilities. ORM provides the basic structure for the detection, assessment, and ultimately the sustained control of risks while enhancing performance and maximizing operational capabilities. Individuals at all levels are expected to identify and control hazards through the ORM process (figure 2).



Figure 2. Five-Step Operational Risk Management Process.

**3.1. Identify the Hazard.** A hazard can be defined as any real or potential condition that can cause mission degradation, injury, illness, death to personnel, or damage to equipment or property. Experience, intuition, and specific risk management tools can help to identify real or potential hazards.

NOTE – Refer to the *DOI Operational Risk Management Handbook* for detailed information on specific hazard identification tools.

**3.2. Assess the Risk.** Risk is a value that combines the **probability** and the **severity** of a loss from **exposure** to a specific hazard.

**3.2.1 Exposure.** Exposure refers to the number (or type) of personnel exposed to a hazard or the duration of that exposure. You minimize risk by exposing the fewest number of people for the least amount of time.

**3.2.2 Severity.** Severity is how bad the loss will affect you.

**3.2.3 Probability.** Probability is how likely a hazard will cause a loss. Some hazards like heat stress and poison oak occur frequently during marijuana eradication missions, others such as turbine engine failures almost never do.

**3.2.4.** The standard Risk Assessment Matrix (figure 3) is used to quantify the level of risk using standard definitions for the degrees of probability and severity.

		HAZARD PROBABILITY				
		Frequent	Likely	Occasional	Seldom	Unlikely
		A	B	C	D	E
E F F E C T	Catastrophic I	Extremely High	High	Medium	Low	Very Low
	Critical II	High	Medium	Low	Very Low	Extremely Low
	Moderate III	Medium	Low	Very Low	Extremely Low	Unacceptable
	Negligible IV	Low	Very Low	Extremely Low	Unacceptable	Unacceptable

Figure 3. Standard Risk Assessment Matrix.

**3.2.4.1. Risk Levels.** Refer to paragraph 2.3.

**3.2.4.2. Severity Categories.**

3.2.4.2.1. **Catastrophic** - Complete mission failure, death, or loss of system.

3.2.4.2.2. **Critical** – Major mission degradation, severe injury, occupational illness or major system damage.

3.2.4.2.3. **Moderate** – Minor mission degradation, injury, minor occupational illness, or minor system damage.

3.2.4.2.4. **Negligible** - Less than minor mission degradation, injury, occupational illness, or minor system damage.

**3.2.4.3. Probability Categories.**

3.2.4.3.1. **Frequent** –

**3.2.4.3.1.1.** Individual item - Occurs often in the life of the system

**3.2.4.3.1.2.** Fleet or inventory - Continuously experienced

**3.2.4.3.1.3.** Individual - Occurs often in career

**3.2.4.3.1.4.** All Individuals exposed - Continuously experienced

3.2.4.3.2. **Likely** –

**3.2.4.3.2.1.** Individual item - Occurs several times in the life of the system

**3.2.4.3.2.2.** Fleet or Inventory - Occurs regularly

**3.2.4.3.2.3.** Individual - Occurs several times in a career

**3.2.4.3.2.4.** All Individuals exposed - Occurs regularly

3.2.4.3.3. **Occasional** –

**3.2.4.3.3.1.** Individual item - Will occur in the life of the system

**3.2.4.3.3.2.** Fleet or Inventory - Occurs several times in the life of the system

**3.2.4.3.3.3.** Individual - Will occur in a career

**3.2.4.3.3.4.** All Individuals exposed - Occurs sporadically

3.2.4.3.4. **Seldom** -

**3.2.4.3.4.1.** Individual item - May occur in the life of the system

**3.2.4.3.4.2.** Fleet or Inventory - Can be expected to occur in the life of the system

**3.2.4.3.4.3.** Individual - May occur in a career

**3.2.4.3.4.4.** All Individuals exposed - Occurs seldom

3.2.4.3.5. **Unlikely** -

**3.2.4.3.5.1.** Individual item - So unlikely you can assume it will not occur in the life of the system

**3.2.4.3.5.2.** Fleet or Inventory – Unlikely. But could occur in the life of the system

**3.2.4.3.5.3.** Individual - So unlikely you can assume it will not occur in a career

**3.2.4.3.5.4.** All Individuals exposed - Occurs very rarely

**3.3 Develop Control Measures and Make Risk Decisions.** After assessing the risk level of each hazard, the mission planner identifies ways to reduce, mitigate, or eliminate those risks. Effective control measures reduce or eliminate one of the three components (probability, severity, or exposure) of risk.

Once control measures have been identified, then decision makers (at the appropriate level for the degree of risk) choose the best control or combination of controls based on the analysis of overall costs and benefits. If, after controls are identified, the risks are still too high, the decision maker directs the development of additional/alternate controls, directs the modification of the mission, rejects the mission, or elevates the risk decision to the next higher level (paragraph 2.3).

**3.4. Implement Risk Controls.** Once control(s) have been selected, an implementation strategy needs to be developed and then applied. Implementation requires commitment of time and resources.

**3.5 Supervise and Evaluate.** Risk management is not a one-time effort conducted before a mission and never looked at again. Risk management is a continual process that begins before the mission, is reviewed and adjusted as the mission progresses, and is reviewed and evaluated after the mission is over. The effectiveness of the risk controls is documented on the Risk Management Worksheet (figure 1) and in the Daily Report.

Once controls are in place, they must be periodically reevaluated by management to ensure that they remain effective.

Safety hazards identified during the mission may warrant submission of a Safety Communiqué (SAFECOM) per the contract and Departmental policy ([www.safecom.gov](http://www.safecom.gov)).

**4. How to Use the ORM Process Model.** To get maximum benefit from this powerful tool, there are several factors to keep in mind.

**4.1. Apply the Steps in Sequence.** Each of the steps is a building block for the next step. It is important to complete each step, however briefly, before proceeding to the next step. Until the hazard identification step is complete, it is not possible to properly prioritize risk control efforts.

**4.2. Maintain Balance in the Process.** All five steps are important. Don't spend all your time identifying hazards and fail to manage the risks.

**4.3. Apply the Process as a Cycle.** The "Supervise and Evaluate" step feeds back into the first step, "Identify Hazards." It is this cyclic characteristic that generates the continuous improvement characteristics of the ORM process.

**4.4. Involve Everyone in the Process.** Involving everyone in the process provides the opportunity to identify new hazards and innovative solutions. It also raises situational awareness and improves the support of all personnel.

**5. Conclusion.** Realistically, some risk must be accepted in any law enforcement or aviation operation. How much is accepted or not accepted is both the prerogative and the responsibility of the defined decision authority. That decision is affected by many inputs.

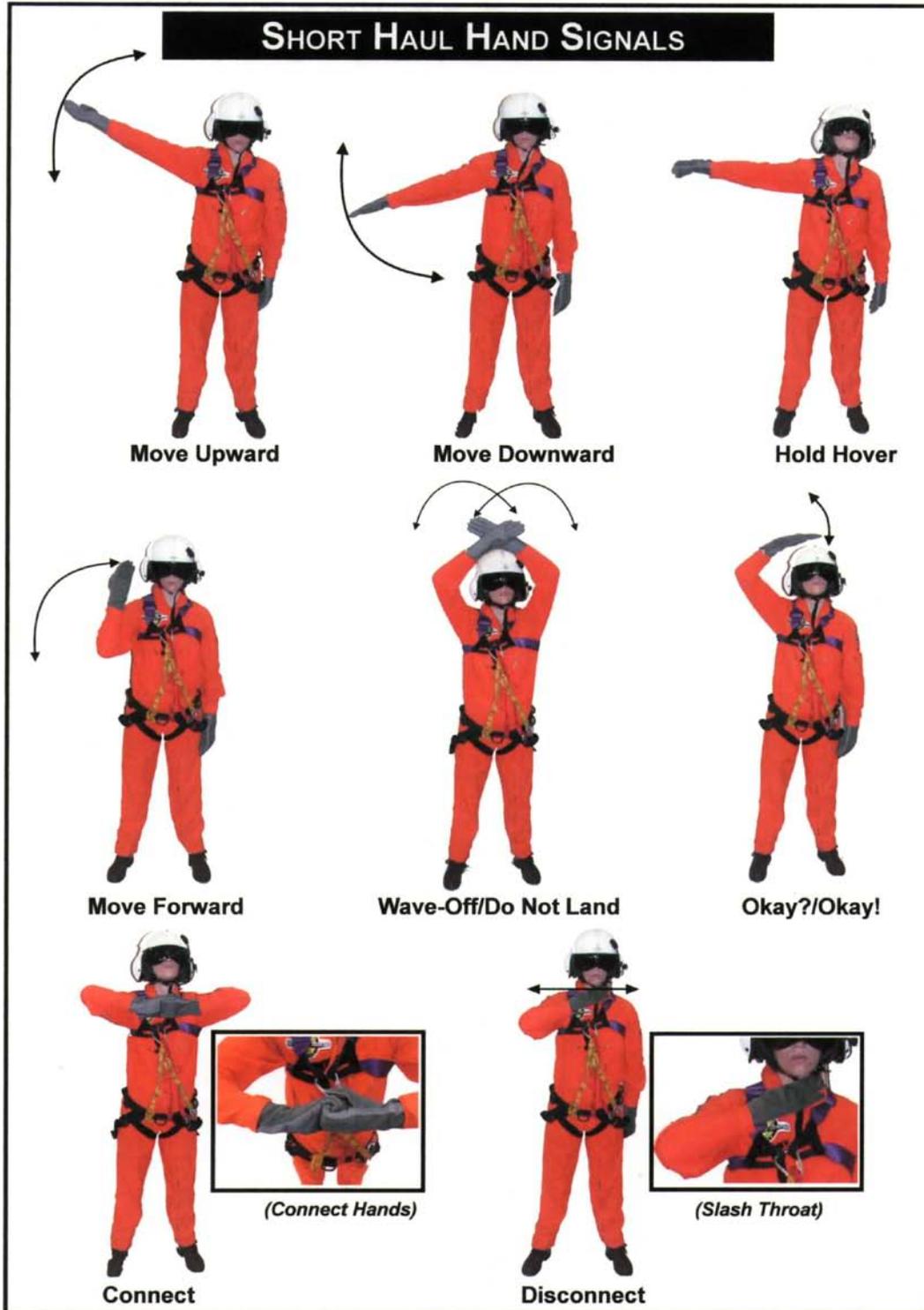
Operational risk management provides an analytical and systematic means of identifying and controlling risk. Operational risk management is not a complex process, but it does require individuals, supervisors, and managers to support and implement the basic principles on a continuing basis. Operational risk management offers individuals and organizations a powerful tool for increasing effectiveness and reducing mishaps. Properly implemented, ORM will enhance mission performance.

ORM does not provide a go – no go solution. It does support better, more informed decisions by leaders at all levels.
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**6. DOI Law Enforcement Short Haul Mission Risk Assessment Worksheet.** The DOI Law Enforcement Short Haul Working Group reviewed the California Department of Justice's (DOJ) Campaign Against Marijuana Planting (CAMP) program and aviation policy and determined that DOI should, to the extent practicable, comply with CAMP policy. When serious inconsistencies or risks were identified, the Working Group noted them on the risk management worksheets along with proposed risk controls and residual risk levels.

# APPENDIX B

## Hand Signals



## APPENDIX C

### Example Counter Drug Operations Plan

<b>INCIDENT NAME:</b> OPERATION:	<b>OPERATIONAL PERIOD:</b> DATE: TIME:	US DEPARTMENT OF INTERIOR NATIONAL PARK SERVICE INVESTIGATIVE SERVICES BRANCH
-------------------------------------	--	--

<b>TYPE OF OPERATION</b>	<input type="checkbox"/> SURVEILLANCE	<input type="checkbox"/> ARREST	<input type="checkbox"/> MARIJUANA RAID	<input type="checkbox"/> CI BUY
	<input type="checkbox"/> S/W	<input type="checkbox"/> PROB. SEARCH	<input type="checkbox"/> DIGNITARY	<input type="checkbox"/> OTHER

OPERATIONS PERSONNEL ASSIGNMENTS					
<b>I/C:</b>					
<b>OPERATIONS:</b>					
<b>AVIATION:</b>					
<b>RESOURCE DESIGNATOR:</b>	<b>LEAD</b>				
<b>FORWARD CP</b>					
<b>SAFETY OFFICER</b>					
<b>RAID SECURITY TEAM</b>					
<b>ERADICATION TEAM</b>					
<b>HELICOPTER MANAGER</b>					
<b>SITE CLEANUP</b>					
<b>GROUND TRANSPORT / DISPOSAL</b>					

<b>TEAM WOLF</b>					
<b>EVIDENCE / GIS</b>					
<b>MEDICAL</b>					
<b>INVESTIGATIONS ALS MEDEVAC</b>					

**SUSPECT(s):**

**LOCATIONS:**

**SEE ATTACHED NAVIGATION PACKAGE**

**BACKGROUND:**

**MISSION PURPOSE AND OBJECTIVES / COMMANDERS INTENT:**

1. ENSURE SAFETY OF ALL PERSONNEL AND PUBLIC.
2. ENSURE INTERAGENCY COMMUNICATIONS/COORDINATION AND MITIGATE RISKS.
3. CONDUCT.
- 4.

**EXECUTION:**

**DTG:**

**COMMUNICATIONS:**

1. COMMAND NET / AIR TO GROUND
2. EMERGENCY COMMUNICATIONS (REDW)
3. EMERGENCY COMMUNICATIONS (WHIS)
4. BACKUP COMM CHANNEL
5. EMERGENCY EVAC
6. RINO:

**FREQUENCY CHART:**

NAME	Tx	Tx CG	Rx	Rx CG	N/W D/A E?	REPEATER?
**** RINO ****	CH CODE	POWER: 5W	SCRAMBLE: ON		SEND LOC: ON	ALLOW POLLING: ON

**AVIATION SUPPORT:**

**SPECIAL PROBLEMS/CONSIDERATIONS: (ALSO SEE ATTACHED HAZARDS BRIEFING)**

<input checked="" type="checkbox"/> WEAPONS	<input type="checkbox"/> FORTIFICATIONS	<input type="checkbox"/> GUARD DOGS	<input checked="" type="checkbox"/> HISTORY OF VIOLENCE**
<input type="checkbox"/> MENTAL CONDITION	<input type="checkbox"/> DRUG/ALCOHOL ABUSE	<input type="checkbox"/> CHILDREN	<input type="checkbox"/> ELDERLY/INFIRM

OTHER: EXTREME HEAT, POISONOUS SNAKES AND POISON OAK.

**BE ALERT FOR FIRES STARTED BY SUSPECTS.**

\*\* THERE IS HIGH FIRE DANGER IN THE AREA OF OPERATIONS, BE ALERT FOR FIRES STARTING IN THE AO.

\*\* BE PREPARED WITH AN EVACUATION ROUTE IN THE EVENT OF A WILDLAND FIRE START NEAR YOU

\*\* INCREASED ATTACKS ON OFFICERS AND ERADICATION TEAMS

\*\* INCREASED WEAPONS FIRE AGAINST OFFICERS AND ERADICATION TEAMS (SEE ATTACHED SHOOTING PROCEDURES)

\*\* SUSPECTS MAY STAND AND FIGHT RATHER THAN FLEE.

\*\* INCREASED PRESENCE OF BOOBY TRAPS

\*\* INCREASED PARTNERSHIPS WITH VIOLENT CA DRUG GANGS

\*\* INCREASED PRESENCE OF MILITARY TRAINED AND PARA-MILITARY TRAINED GROWERS.

**MEDICAL EMERGENCIES:**  
 ELEMENT WILL SECURE THE IMMEDIATE LOCATION OF THE INJURED PARTY. ONCE SECURE, NPS MEDIC WILL ASSUME PRIMARY CARE OF VICTIM. T/L OR ALT WILL ENSURE SECURITY AND INITIATE EXTRACTION OF VICTIM.

SEE ATTACHED MAP SHOWING ROUTES TO:  
**XXX Medical Center, CITY**

<b>INDIVIDUAL EQUIPMENT (RAID / ERADICATION / SECURITY / RECLAMATION / FIELD INTELLIGENCE)</b>				
( X ) BDU'S (OD/ACU) SPECIFY COLOR:	( X ) ARMOR – VEST WEATHER DEPENDANT	( ) HELMET	( ) RAID JACKET	( X ) EXTRA WATER
(X) PERSONAL TRAUMA PACK	( X ) PORTABLE RADIO	( X ) SPARE BATTERY	( X ) FLASHLIGHT	( X ) FOOD
( ) OC SPRAY	( X ) HANDCUFFS	(X) AMMO.	( ) BATON	( ) OVERNIGHT GEAR *
( ) NOMEX CLOTHING	( ) RESPIRATOR	( X ) GLOVES	( X ) GOGGLES	<b>( X ) OTHER:</b>

<b>SPECIAL EQUIPMENT:</b>				
( ) SHIELD # _____	( ) RAM	( ) HOOLIGAN	( ) PRY BAR	( ) FLASH BANGS (NFDD)
( ) HOOK	( ) CUTTERS	( ) TRAUMA KIT	(X) EVIDENCE KIT	( X ) CAMERA (VIDEO/STILL)
( X ) FLAGGING	( X ) PERSONAL LIGHT	( )	( )	( )

**WEATHER / ILLUMINATION FOR OPERATIONAL PERIOD:**  
 WEATHER:  
 SUNRISE:  
 MOON PHASE (RISE/SET):

- LISTING OF ATTACHMENTS:**
1. MEDICAL PLAN
  2. NAVIGATION PACKAGE
  3. PROJECT AVIATION SAFETY PLAN

PREPARED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

REVIEWED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

REVIEWED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

## APPENDIX D

### Project Aviation Safety Planning

References: 352 DM 1.9 and IHOG Appendix F.

Overview: Successful and safe law enforcement missions are a result of thorough pre-mission planning. Aviation missions are no different. Departmental Manual 352 (Aviation Safety), section 1.9 (Aircraft Mishap Prevention Plan) outlines the minimum elements that need to be addressed for all aviation missions. Appendix F of the IHOG (Daily Helicopter Operations Briefing/Debriefing Checklist) provides a very useful (and adaptable) checklist for field users to ensure all essential elements are covered during briefings and debriefings.

NOTE: Many elements of a Project Aviation Safety Plan (PASP) may already be addressed by CAMP, CERT, or other aspects of this Interim Policy. The intent of this appendix is to ensure thorough planning, not to duplicate existing processes.

General:

1. The PASP is developed by mission planners (i.e., Short Haul Master) who are familiar with the aviation aspects of the mission and who are properly trained in accordance with this Interim Policy.
2. Prior to commencing operations the PASP will be reviewed and approved in writing (signed) by the supervisory chain-of-command designated by your bureau/agency policy.
3. The completed, and approved, PASP will be kept on file as part of the mission documentation.
4. The PASP may be used to organize the mission briefing.
5. The following elements from 352 DM 1.9 shall be addressed:
  - a. Flight routes/areas and altitudes.
  - b. Risk Assessment. Law Enforcement Short Haul PASPs will use the Operational Risk Management Worksheet and Risk Assessment Matrix identified in Appendix A.
  - c. Hazard identification (i.e. weather, wire hazards, landing areas, aircraft takeoff/landing weights).
  - d. Operational environmental considerations.
  - e. Aviation life support equipment.
  - f. Flight following.
  - g. Airspace coordination (as required).

6. The following elements from IHOG Appendix F shall be addressed:
  - a. Organization and Personnel (i.e., responsibilities, training, qualifications).
  - b. Communications.
  - c. Landing areas.
  - d. Safety.
  - e. Operations.
  - f. Administration.
  
7. In addition to the elements addressed in 352 DM 1.9 and the IHOG, Law Enforcement Short Haul PASPs will consider the following elements:
  - a. Contingency planning and resources.
  - b. Incident complexity.
  - c. Aircraft performance (load calculation) in the operating environment.
  - d. Actions to take in the event of an aircraft mishap.
  
8. Debriefings/After Action Reviews will be conducted for all operations and will be documented on the Operational Risk Management Worksheet. Debriefings should, at a minimum cover:
  - a. What was planned?
  - b. What actually happened?
  - c. Why did it happen?
  - d. How can we improve and reduce the risks next time?

## GLOSSARY

**3 Ring Release System**—See definition under Three Ring Release System.

**12 Strand Plasma Line**—Helicopter synthetic longline that is constructed from HMWPE or HMPE (High Molecular Weight Polyethylene) family of rope fibers.

**A Frame**—The “Yates ‘A’ Frame Bridle” assembly consists of two “A” Frame Bridles stitched together with one Umbilical Strap, sewn to OSHA Standard 1910, ASTM Standard Z359.1-1992, and ANSI Standard A10.14-1991. The Umbilical webbing used is Nq280, one inch flat, black in color, with strength of 6,000 pounds. The “A” Frame webbing X868 is one inch flat lanyard webbing, yellow in color with red cut markers for detection. The minimum breaking strength is 9,800 pounds.

**Allied Agencies**—Other local, State, and Federal law enforcement agencies participating in a program or operation.

**American National Standards Institute (ANSI)**—A private non-profit organization that oversees the development of voluntary consensus standards for products, services, processes, systems, and personnel in the United States.

**Attendant**—Individual attached adjacent to Stokes Litter containing a victim or prisoner during a short haul. Typically this is a trained EMS provider who needs to monitor the airway of an injured person packaged in a litter. During prisoner transport, the Attendant must be a sworn law enforcement officer with competent jurisdiction.

**Auto-Locking Carabiner**—Carabiner with spring-loaded locking gate mechanism and a secondary or tertiary lock release device. Typically, the secondary locking device must be activated and then the sleeve on the carabiner gate must be rotated before the carabiner can be opened. Once the gate is released to close, the sleeve rotates automatically to positively lock the carabiner. Auto-locking carabiners are preferred for short haul applications since they are not affected by aircraft vibration, which may cause traditional locking carabiners to unlock.



**Aviation Life Support Equipment (ALSE)**—Is a handbook supplement to the Department of the Interior (DOI) Manual, Part 351 DM 1 and establishes standard for approval and use of aviation life support equipment when conducting DOI aviation activities.

**Belly Band (Yoke Band)**—A short haul anchor system that is constructed of a belt which is secured around the fuselage of the helicopter going through the aft cabin doors. Typically, the aircraft doors must be removed or pinned open to allow installation of this equipment. The yoke band must have a dual-action release mechanism to permit emergency release, which is typically performed by the spotter.

**Bureau of Narcotic Enforcement (BNE)**—The agency in the California Department of Justice that is responsible for protecting the public health by combating the illegal use and trafficking of controlled substances and illegal drugs.

**Capewell Release**—A double-action release mechanism designed to reliably function while subjected to a load. The Capewell lanyard-type parachute canopy release (illustration) is a hand activated mechanical device for detaching the parachute harness from the canopy. This design was first patented in 1947. The manufacturer subjects each release to a 5,000-pound (2,268 kg) pull test.



**CE standards**—A system of ensuring international conformity among trading partners in Western Europe and North America. Law enforcement has accepted the CE EN 1385 Water Sports Safety Standard as the standard for LESH helmets.

**Cobiner Choker Rope**—A choker type rope used to bundle marijuana plants into a transportable bundle that is hooked to a grapple hook thereby allowing the helicopter to gather marijuana bundles from various sites close to each other. Named after Lt Steve Cobine (ret), Humboldt County Sheriff's Office, who developed the idea after watching a Christmas tree harvest conducted by helicopter in Oregon

**Commission on Peace Officers Standards and Training (POST)**—The State agency responsible for setting and enforcing the standards of police training in each respective State.

**Density Altitude**—The pressure altitude corrected for the outside air temperature and humidity, referring to a theoretical air density which exists under standard conditions of given altitude.

**DOI AM Operational Procedures Memorandum (OPM)**—Temporary or interim directives issued Department-wide as OPMs to permit the timely dissemination of instructional and procedural material.

**DOI National Business Center Aviation Management Directorate (AMD)**—Department of the Interior organization which is responsible for Department-wide functions related to aircraft services and facilities.

**Drug Trafficking Organizations (DTO)**—A criminal organization of any size and structure that exists to produce, transport, and distribute controlled substances.

**Extraction**—The phase of a LESH evolution involving transport of personnel from a short haul site to a staging Landing Zone.

**Federal Aviation Administration (FAA)**—Is an agency of the United States Department of Transportation with authority to regulate and oversee all aspects of civil aviation in the U.S.

**Harness**—Tactical Full Body Harness manufactured by Yates Gear, Inc. Other harnesses meeting NFPA, NASI, OSHA and CAMP/CERT requirements are used in Law Enforcement short haul. The Tactical Full Body Harness utilizes an Extraction Harness with two-piece quick-connect buckles on the legs and the sternum straps. The waist buckle is mounted on the left side of the harness to keep it free and out of the way of any side arm. A military specification load bearing vest, shoulder straps are sewn into the harness, allowing the harness to be worn under any load-bearing vest. Leg pouches on the harness allow for the leg straps to be stowed away when not in use. Double buckle locking assemblies, which can be safety locked, are required for added protection. This harness allows the user to be minimally constrained and affords some degree of mobility. It is critical that the harness does not restrict the body movements essential for performing a task (FAA AM-98/13). Harnesses must be within the manufacturer’s warranty period and are subject to inspection and approval by the cooperating agency (CAMP/CERT) LESH Master. The harness shall be worn against the body and all other load-bearing equipment shall be worn over the harness.

**Hazard**—Any real or potential condition that can cause mission degradation, injury, illness, death to personnel or damage to or loss of equipment or property.

**Helmet**—Protective headwear used in aviation and law enforcement tactical applications.

**Aviator’s Helmet**—Approved aviator’s helmets meet standards set by the ALSE handbook. These helmets are authorized for all flight modes.

**Lightweight Tactical Kevlar Helmet**—These helmets will have an internal suspension system to protect the head from a blow and a multipoint chin restraint system to prevent the helmet from being knocked or blown off the user’s head. Approved tactical Kevlar and lightweight Kevlar helmets meet or exceed ballistic and fragmentation standards set by the U.S. military and civilian testing and certification authorities. These helmets are approved for LESH and for short duration internal load flights to provide tactical insertion.

**Tactical Plastic Helmet**—These helmets will have an internal suspension system to protect the head from a blow and a multipoint chin restraint system to prevent the helmet from being knocked or blown off the user's head. Commercially produced tactical plastic helmets are marked that they meet UIAA or CE standards. These helmets are approved for LESH tactical insertions.

**Hover (relating to STEP)**—The helicopter remains in a hover above the surface of the terrain with skid-to-ground clearance of no more than 24 inches.

**Hover Out-of-Ground-Effect (HOGE)**—Occurs when the helicopter exceeds about one-half the rotor diameter distance from the ground and the cushion of air disintegrates. To maintain a hover, the helicopter is now power dependent. This situation will occur when the terrain does not provide sufficient ground effect base or when performing external load work. Maximum performance is required and payload may have to be reduced.

**Human External Cargo (HEC)**—Classification given by the FAA to the suspension of human loads beneath a rotorcraft.

**In-Flight Emergency**—A condition threatening the continued flight of the helicopter. This includes critical conditions such as loss of engine power, tail rotor failure or other major mechanical malfunction. A human load suspended for a LESH evolution at that time of an emergency may sustain bodily injury upon contact with the ground. (See also Precautionary Landing.)

**Insertion**—The phase of a LESH evolution involving the transport of personnel from a staging

**Interagency Helicopter Operations Guide (IHOG)**— An Interagency document that defines and standardizes national, interagency helicopter management and operational procedures for helicopter users from participating agencies.

**Landing Zone (LZ)**—A safe takeoff and landing area meeting obstruction-free clearance standards (Type III/Light helicopter = 15' by 15' touchdown pad with a 75' safety circle). For use during LESH tactical operations, a Landing Zone may be temporary and not have other site improvements. The reconnaissance flight normally commences from this site and is typically where the ROC, Short Haul Master, Safety Officer, Pilot and LEO will conduct a mission briefing.

**Law Enforcement Officers (LEO)**—A **law enforcement officer** (also called **peace officer** in some States), is any police officer charged with upholding the peace, enforcing laws and regulations, making arrests and serving search warrants. LEO mainly refers to police officers, customs officers, correctional officers(in some jurisdictions), court officers, probation officers, parole officers, auxiliary officers, sheriffs or marshals and their deputies, and special agents.

**Law Enforcement Short Haul (LESH)** –Technique of transporting sworn or commissioned law enforcement personnel beneath a helicopter while suspended on a fixed line for the purpose of tactical insertion to a crime scene. This technique permits insertion and extraction of personnel from a site where a helicopter could not typically land and is less hazardous than a toe-in or one-skid landing.

**Law Enforcement Short Haul Hand Signals**–Set of one-handed signals used by both the spotter and short haul LEO to communicate effectively between aircraft and the end of the short haul line during critical phases of insertion and extraction.

**LESH LEO**–Personnel trained and qualified in law enforcement short haul procedures. During a LESH evolution, they are suspended at the end of short haul line from their harness.

**LESH Master Course**–An agency approved course designed to teach and test the skills of a LEO to become approved to oversee the training and conduct of LESH missions.

**LESH Operations Course**–An agency approved course designed to teach LESH operations to approved officers.

**Load-Bearing Vest (LBV)** –A manufactured, vest-like, piece of equipment used by LEOs to carry the gear needed in their tactical operations.

**Mil Spec** –A United States Defense Standard, often called a **military standard, MIL-STD, MIL-SPEC**, or (informally) **MilSpecs**, is used to help achieve standardization objectives by the U.S. Department of Defense.

**National Fire Protection Association (NFPA)** –Is a U.S. organization (albeit with some international members) charged with creating and maintaining minimum standards and requirements for fire prevention and suppression activities, training, and equipment, as well as other life-safety codes and standards.

**Parachute Landing Fall (PLF)** - A parachutist technique for taking a hard landing without sustaining critical injuries. The landing technique involving rolling to one side upon contact with the ground in order distribute impact upon the body and lessen the likelihood of spinal injury or leg fracture.

**Pear Shaped Ring** –An oblong, oval ring used as the bottom attachment point in LESH operations. It is designed to attach, on the small end of the ring, to the working end of the Short Haul Line and to have multiple A-frames attached to big end.

**Power Assurance Check** –The pilot will bring the helicopter to a stable hover and demonstrate a positive rate of climb prior to actual LESH insertion. This check will be accomplished at actual altitude and temperature for initial insertion. There should be sufficient unobstructed space to allow the helicopter fly away capability if power required, exceeds power available.

**Precautionary Landing**—Deviation from the flight to land the helicopter due to a perceived threat or emergency that might affect airworthiness of the aircraft. This includes such circumstances as isolated weather conditions, communication equipment failure, chip/warning light activation or other minor mechanical problems.

**Radio Interface Cable** —Connection between a handheld radio and a flight helmet or headset, which is typically utilized for communication in noisy environments.

**Reconnaissance Flight**—The initial check flight conducted with only the pilot, ROC, Short Haul Master and/or Case Agent/Incident Commander on board prior to an insertion or extraction. This flight permits the flight crew to focus on evaluating all hazards and conditions at a LESH site without a human load suspended beneath the aircraft.

**Rescue Knife** —A straight or J-shaped bladed knife designed to quickly cut through cordage or webbing, used by a LESH LEO for emergency cut away from the short haul line or connector straps. This knife is to be used solely for rescue and is attached to the LESH LEO in a position to facilitate easy access with either hand and is attached to the LESH LEO by a lanyard.

**Resource Helicopter Manager** —The Government representative responsible for coordinating, scheduling, managing, and supervising nonfire resource helicopter operations.

**Risk Assessment** —The process of identifying hazards (what can hurt you) and determining how much risk is involved (often and how bad the hazards will hurt you). Risk assessment differs from risk management in that managing risks goes beyond the assessment and actually takes action to mitigate the risks that have been identified.

**ROC** —Regional Operations Commander (CAMP). Individual with ultimate onsite responsibility for LESH activities during raid missions.

**Search and Rescue (SAR)** —Is the search for and provision of aid to people who are in distress or imminent danger.

**Short Haul Site**—The location where personnel will be inserted to or extracted from during a short haul evolution. The LESH site does not meet the requirements for a landing zone and must be in an open area away from the scene of known criminal activity.

**Single Skid**—One skid or a portion of one helicopter skid is in contact with the surface while the other skid is (due to terrain considerations) not in contact with the surface.

**Site Reclamation**—The tactical insertion of LESH LEO to secure cultivation sites to facilitate the removal of refuse, pollutants and infrastructure for reasons of environmental mitigation and deterrence of future reoccupation of the site.

**Special Patrol Insertion/Extraction Rig(SPIE Rig)**—A system of short hauling Marines developed in Viet Nam, consisting of a single nylon strap with multiple attachment points that suspends a Marine Recon Team vertically above each other for extraction out of areas where helicopters cannot land.

**Spotter**—Helicopter crewmember who assists the pilot during a LESH evolution. The spotter aids with visual reference of the human load, rotor clearances, observing ground activities and hazards, watching for additional aircraft in the airspace and performing communication duties. The spotter may be positioned in the aft cabin of the helicopter dependent upon make and model and more than one spotter may be required depending upon the circumstance.

**STABO**—A system of short hauling developed by U.S. Army Special Forces in Viet Nam that consisted of a nylon strap with two attachment points that was designed to attach with snap links to a full body harness worn by soldiers.

**“STEP”** —Single-skid, Toe-in and hover **Exit/entry Procedures**.

**Stokes Litter**—A rigid basket-style stretcher evolved from original military design (NSN 6530-00-042-8131). Only this type litter is authorized for LESH applications.

Warning: The use of a solid plastic stretcher (e.g., Ferno Model 71 or 71-S) during a short haul evolution could be dangerous due to the violent spinning that can result.

**Sworn Peace Officer** —*In California:* Any peace officer who has sworn an oath of office and is currently employed by a state or local law enforcement agency as a police officer meeting the definition found in the California Penal Code in Section 830.

**Tactical Extraction**—Removing operators, mission specialist, and others from an area of operation, usually under threat of hostile actions.

**Tactical Insertion** —Placing operators and mission specialist into an area of operation, usually under threat of hostile actions.

**Tail Rope**—A short belay line utilized when a stretcher is located in an exposed LESH site for extraction. This provides security for the stretcher as it is initially lifted off the ground. One end of the line is anchored to the ground and then run through a point on the stretcher and back to a friction belay device. As the stretcher become airborne, the running end of the rope exits through the belay device and detaches from the stretcher leaving the rope on the ground.

**Three-Ring Release**—A mechanism designed for parachute canopy release, while under load. This release can be employed in short haul anchor systems. This device is constructed of three consecutively smaller metal rings, which are levered over one another and each holding sequentially less of the load. The actual release is a pin, which holds the smallest of the rings down. The pin is connected to a release cable that is pulled to activate release. The improved design and reliability of the three-ring release (illustration) has caused it to become more preferred in rigging applications than the Capewell release buckle.



**Toe-In** –The toes (forward portion of the skids) are in contact with the surface, while the aft section of the skids is not in contact with the surface.

**Typical Terrain** –The anticipated environment in which operations may be conducted (i.e., confined areas with features that may include steep slope, cliff faces, tall trees, etc.).

**Union International Alpine Association (UIAA) standards** –The International Mountaineering and Climbing Federation (UIAA) that defines standards for climbing equipment.

**Vertical Reference** –A method of flying a helicopter where the pilot’s focus is directed to an external load hanging directly below the helicopter.

**Weight Bag**—Weight suspended on LESH line to prevent it from becoming entangled in the helicopter rotor system during forward flight when there is no personnel or equipment suspended on the line. This weight may be positioned a short distance from the distal end of the LESH line to prevent it from encumbering LESH personnel. The weight may be comprised of a water-filled container, padded lead weight, sand, road cinders, etc.