

M3

Aviation Management Training for Supervisors



Participant Workbook

Prepared by Office of Aviation Services - Training Division
Revised May 23, 2014

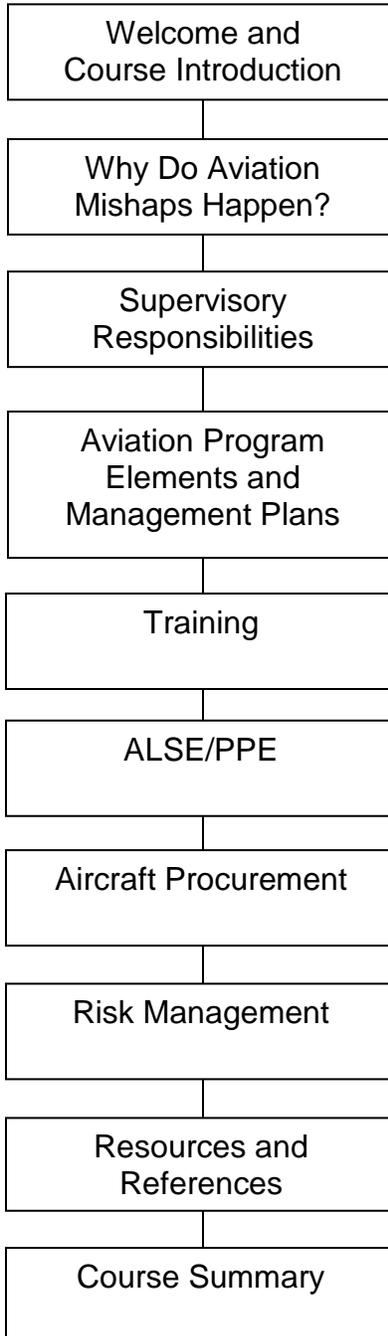
M-3 Aviation Management Training for Supervisors

Version Control

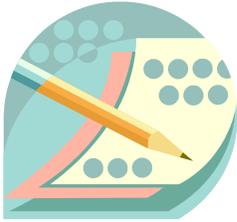
Version	Description	Date
1.00	Original Materials	02/06
1.50	Revisions made to current addition – to include objectives, format, IG, electronic presentation, participant workbook	2/8/2011
1.60	Revision following Course Revision Cycle submissions by Bureaus	7/16/2012
1.70	Corrected all reference to AMD with OAS. Updated website references. Added NTSB information for accident reviewed	2/14/2013
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1.90	Corrected AMD reference to OAS. Crosswalk to balance of materials; minor grammatical and formatting edits.	5/23/2014

M3 Aviation Management Training for Supervisors

Course Map



Welcome and Course Introduction



Get to Know Your Classmates

Be prepared to share:

- Your name?
- Your position?
- How long have you supervised people involved in aviation operations?
- What are some of the ways you use aviation support to accomplish your mission?

Objectives

At the conclusion of this course, you should be able to:

1. Define the term contributing factor as it relates to aircraft mishaps.
2. Explain how supervisors can break the chain of events that result in an aircraft mishap.
3. List three documents that provide aviation policy for your bureau.
4. Describe five key responsibilities of those who supervise aviation operations.
5. List three consequences of working outside your scope of employment.
6. Identify areas for improvement in your organization's written aviation management plan, aviation project safety plan and mishap response plan.
7. Identify aviation training you and your employees must complete; and explain how to monitor training compliance.
8. List resources available to determine required ALSE your employees must use for aviation missions.
9. Define the term End Product Contract in relation to aviation procurement.
10. List the principles of risk management and how they apply to the five-step risk management process.
11. Given an aviation scenario, demonstrate how to identify and mitigate risk using the risk assessment matrix.
12. List resources available to assist you in fulfilling your responsibilities.

Why Do Aviation Mishaps Happen?

Notes

Put Yourself in This Situation:

Imagine you are on leave and the local dispatch operator calls you. She tells you that two of your employees have been involved in an aircraft accident.

Aircraft mishaps are the result of a chain of diverse, yet interconnecting links (events) that together produce unintended yet **predictable** consequences.

These links are expressed in terms of “contributing factors.” In aircraft mishaps, a contributing factor:

- is identified as a deviation from expected norms that comprise established safeguards and risk mitigations; and
- brings the pilot-aircraft system closer to a mishap

Preventing an aircraft mishap requires that only one link (contributing factor) in the mishap chain be broken.

As supervisors, we have the opportunity to become the “chain breaker” that breaks the chain of events.

Without intending to, we may become “chain makers” when we deviate or allow our employees to deviate from established safeguards.

Supervisory Responsibilities

Notes

Where do you find aviation policy and requirements?

- Public Law (CFR's, FAR's)
- Departmental Policy
(DM 350 -354, OPM's, Handbooks)
- Field Reference Guide for Aviation Users

Where do you find bureau specific policy and requirements?

- BIA BIAM 59
- BLM BLM 9400
- BOR 114S-37
- BOEMRE MMS Manual Part 485.5
- FWS Parts 330-339 (FWS)
- NPS RM-60
- OSM ADS14
- USGS SM 445-2-H Chapter 27

350 DM 1.1

General Administration – Purpose

“DOI is responsible for air crewmembers and passengers on-board aircraft under its operational control, the provisions of Departmental Manual Series 350-354, OAS Operational Procedures Memoranda (OPMs) and appropriate handbooks are applicable to Interior employees, individuals or groups providing volunteer services without compensation, or any other persons supervised by Departmental employees.”

Supervisory Responsibilities

Notes

Key Responsibilities

- Required written plans are in place
- ALL personnel are properly trained
- Personnel use required ALSE/PPE
- Pilot(s) and aircraft are approved
- Personnel follow Departmental and Bureau policies/guidance
- Personnel consult Bureau and/or OAS aviation specialists when needed

Personal Liability

Code of Federal Regulations (CFRs) states that an employee cannot be held liable for their actions if that employee was “performing within the scope of their employment.”

Scope of Employment

Doing what you were hired to do, at the time and place you were supposed to be doing it. With the motivation to serve the employer, and act reasonably.

-
-

Professional Liability Insurance

DOI can reimburse employees holding certain Law Enforcement and Supervisor/Manager positions up to 50% of the premium for liability insurance.

**Interaction/Activity: How Are We Doing?**

Take a few minutes to assess your organization's aviation program on a scale of 1-10, with 1 being "Poor" and 10 being "Excellent" for each of the following responsibilities.

1. _____ Required written plans are in place.
2. _____ ALL personnel are properly trained.
3. _____ Personnel use required ALSE/PPE.
4. _____ Pilot(s) and aircraft are approved.
5. _____ Personnel follow Departmental and Bureau policies/guidance.
6. _____ Personnel consult Bureau and/or OAS aviation specialists when needed.

Aviation Program Elements

Notes

**“Bureau Directors are responsible for the implementation of an aviation safety program within their organizations.”
(352 DM 1.6C)**

Aviation Program Elements – Bureau Level

- Aviation Safety Program Responsibilities
- Aircraft Mishap Prevention Program
- Aviation Review Program
- Aviation Safety Awards Program
- Aircraft Mishap Investigation
- Aircraft Safety Education and Training

Aviation Management Plan

- Establishes roles and responsibilities at the local level
- Specific guidance for your unit
- May be more restrictive than next higher level
- Includes unit risk management process
- “Who gets to make the decision?”

Opportunities for improvement may include

- Needs to be revised/updated
- Management needs to review and sign
- “Best kept secret” syndrome
 - Distribute to employees
 - Do they understand it?

Aviation Program Elements

Notes

Aviation Project Safety Plan

- Specific to individual projects or missions
- Contains detailed information
- Risk assessment for the specific project
- Key information that must be briefed to ALL personnel participating

Opportunities for improvement may include

- Need to be updated as project evolves
- Risk assessment should not be “boilerplate”
- Management must review and sign
- “Second best kept secret”
- Share with ALL personnel

Aviation Mishap Response Plan

- Identifies roles and actions
- Medical services contact information
- Chain of contact for bureau and DOI management

Opportunities for Improvement

- Needs to be specific to local area
- Needs to be reviewed annually
- Appropriate personnel should practice a mock response



Interaction/Activity: What's the Plan?

Take 4-5 minutes to identify opportunities you have to improve your:

- Aviation Management Plan
- Aviation Project Safety Plan
- Mishap Response Plan

Write those things down and be prepared to share the opportunities you identified.

Training

Notes

**“The education and training of Interior personnel at all organizational levels is the responsibility of management.”
(352 DM 1.5B)**

Aviation Training Requirements (OPM-4)

- Aircrew Members
- Passengers
- Flight Crew Members
- Supervisory Personnel
- Line Managers

Completing Training vs. Being Properly Trained

- Synthesis and application to your unit
- Assess knowledge and skills of those we supervise
- Provide employees opportunities to practice and demonstrate skills

Monitoring Training Compliance

- Individual has responsibility to keep documentation
- IAT website
- Email OAS training division with names :
iatadmin@ios.doi.gov



Interaction/Activity: Are They Properly Trained?

Take a few minutes to answer the following questions:

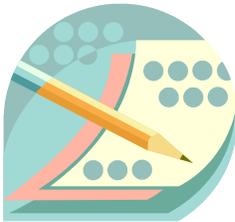
1. Who do I supervise that must be trained?
2. What training is required?
3. Have they completed the training?
4. Have you given them opportunities to demonstrate their knowledge and skills?

Aviation Life Support Equipment (ALSE)

Notes

Where Do I Find ALSE Requirements?

- ALSE Handbook
- Department and bureau policy
- Document exemptions granted
 - “If it ain’t in writing, it didn’t happen!”



Interaction/Activity: Today's Top Ten List

Take 2-3 minutes and come up with a list of the “Top Ten Reasons Employees Don’t Use Required ALSE/PPE.”
Be prepared to share your list with other classmates.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Aircraft Procurement

Notes

All Flight Services Shall Be Acquired Through DOI Aviation Management Except:

- Seat Fare on Flights With Scheduled Air Carrier (353 DM 1)
- End-Product Contracts (OPM-35)
- DOI Use of USFS Procured Aircraft (OPM-39)

End Product Contract

- Aircraft and/or crew specification will **not** be identified in contract.
- **No** aircraft or pilot approval will be specified.
- DOI does **not** have operational control of aircraft.
- **No** DOI personnel are aboard the aircraft.

The following table provides some guidance to identify end product/service or flight service procurement. If the answer is YES in any block under a project, you have a flight service that must be procured through DOI OAS (OPM-35).

PROJECT

	Aerial photo remote sensing	Aerial application (spray/seed)	Aerial ignition	Animal inventory	Animal capture (net gun, dart, paintball, etc.)	Animal herding/gathering	Your project
Set pilot standards							
Direct aircraft maintenance							
Dispatch aircraft							
Helibase manager							
Aircraft manager							
Use of PPE							
DOI personnel on board							
Public aircraft							
Other aircraft and pilot requirements							

Ratification

- Unauthorized commitments subject to ratification. Will cost bureau \$1000.
- Utmost importance due to legal complications created and adverse safety implications.
- Failure to assure aircraft and pilot approved could expose passengers to unnecessary risk.
- Approved source list on OAS webpage - <http://oas.doi.gov/source/AirQBE.asp>

Cooperator Aircraft

- Affiliate Aircraft
- Military Aircraft
- Other Government Aircraft

Risk Management

Notes

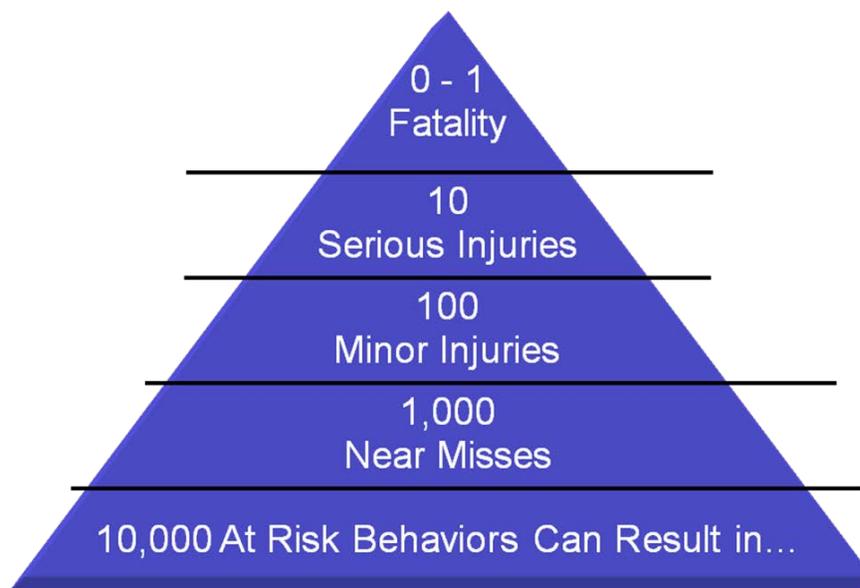
Risk is Inherent to Aviation

The primary objective of safety programs is the elimination of unnecessary or unacceptable risks **(352 DM 1.1)**.

Aviation can increase the overall safety of an operation.

Examples: A medical evacuation where ground transport is not available or too far to meet critical needs. A remote bridge project that would entail moving large amount of cargo through narrow, steep trails via pack animals when one single load via helicopter longline could accomplish the mission.

William Heinrich researched industrial accidents in the early 1900's. He discovered that there is a direct relation between at risk behavior and accidents. Since that time many researchers have studied this topic. The following accident pyramid is just one of the many illustrations resulting from such research.



Risk Management (continued)*Notes***Risk must be managed at all levels.**

- Executive Leadership
- Senior Supervisors
- Local Managers
- Pilots and Operators

In order to successfully manage risk all levels must:

- Responsible
- Accountable
- Involved
- Disciplined

Principles to consider when managing risk.

- Accept no unnecessary risk.
- Make risk decisions at appropriate level.
- Accept risk when the benefits outweigh the costs.
- Integrate risk management into planning and execution at all levels

There are steps that can be taken in order to manage risk. The Five-Step Process is one example of affective risk management.

1. Identify hazards to their mission
2. Assess what could go wrong
3. Develop risk controls
4. Implement controls
5. Supervise and Evaluate

Risk Matrix

	Severity			
Likelihood	IV Negligible	III Marginal	II Critical	I Catastrophic
Frequent A	-		4	
Probable B	-	3	-	High
Occasional C	-	2	Serious	-
Remote D	1	Medium	-	
Improbable E	LOW	-	-	-

Matrix Guidelines

Severity Scale Definitions	
Catastrophic	Results in fatalities and/or loss of the system.
Critical	Severe injury and/or major system damage.
Marginal	Minor injury and/or minor system damage.
Negligible	Less than minor injury and/or less than minor system damage.

Hazard Probability

Likelihood Scale Definitions		
Frequent	Individual Fleet	Likely to occur often. Continuously experienced.
Probable	Individual Fleet	Will occur several times. Will occur often.
Occasional	Individual Fleet	Likely to occur sometime. Will occur several times.
Remote	Individual Fleet	Unlikely to occur, but possible. Unlikely but can reasonably be expected to occur.
Improbable	Individual Fleet	So unlikely, it can be assumed it will not occur. Unlikely to occur, but possible.

**Interaction/Activity: How Would You Rate the Risk?**

Take 10 minutes and complete the following exercise:

1. Read the following scenario.
2. Write down some identifiable hazards on the Risk Assessment Worksheet.
3. Discuss and record a mitigation control for each identified hazard, on the Risk Assessment Worksheet.
4. Use the Risk Matrix to assign a level of risk with each of the identified hazards both pre mitigation and post mitigation.

Scenario

You have been asked to do the risk assessment for an upcoming project. The following information has been given to you concerning the project.

Project: round up of wild horses utilizing contracted helicopter and pilot in conjunction with agency personnel on the ground. The helicopter will be utilized to spot the horses which are located across a 15 square mile area of grassland plains. A government employee will be required on board to assist in locating the horses. Once located the horses will be driven by the helicopter towards a series of holding pins located within the area. The helicopter will need to push the horses into the first of several holding stalls, where the agency wranglers will then finish driving the horses into the narrowing stalls towards the final holding pins.

The project will be conducted in October prior to the first snow storms in the area.

The agency personnel performing this mission have all been exposed to similar missions in the past. The contracted helicopter and pilot are also carded for the mission and the pilot has many years of flying similar missions under his belt.

There are some communication towers in the area, however they have been well scouted and marked on aerial hazard maps. The vegetation in the area is predominately grass. The terrain is mild rolling hills. The only other identified hazards in the area are the many fence lines that mark grazing allotments in the area and the final holding cells which are made up of 10 foot high fences.

Risk Assessment Worksheet

➔ Aviation Risk Assessment Worksheet

Assess the risks involved with the proposed operation. Use additional sheets if necessary.			
Assignment:	Date:		
Describe the Hazard:	Pre-Mitigation hazard rate out as:		
	Likelihood A-E	Severity I-IV	Risk Level
Pre Mitigation Overall Rating:			
Mitigation Controls:	Post-Mitigation hazards rate out as:		
	Likelihood A-E	Severity I-IV	Risk Level
Post Mitigation Overall Rating:			
Success Probability/Benefit Statement:			
Operation Approved by:	Title:	Date:	

HIA-5 4/2009 Optional

Resources and References

Notes

Resources available to you as a Supervisor/Manager

Publications -

- DM 350 – 354 & OPMs
- Bureau Specific Aviation Plan
- Unit Specific Aviation Plan
- Field Reference Guide for Aviation Users
- Aviation Life Support Equipment (handbook)
- Interagency Helicopter Operations Guide (IHOG)
- Interagency Aviation Users Pocket Guide
- Aviation Technical Assistance Directory
- Five Steps To A Safe Flight (orange card)
- Twelve Standard Aviation Questions That Shout “Watch Out!” (blue card)

Online Resources –

- <http://oas.doi.gov>
- <http://www.safecom.gov>
- <http://www.doi.gov>
- <http://www.fs.fed.us/fire/>
- www.iat.gov

Bureau Aviation Personnel

BLM

AK	Chip House	chip_house@blm.gov	907-356-5523	907-388-2872
AZ	Darren Mathis	Darren_mathis@blm.gov	602-417-9308	435-680-0816
CA	Ken Hood	Kenneth_hood@blm.gov	509-258-4566	916-215-9706
CO	Jason Baldwin	Jason_baldwin@blm.gov	307-775-6256	607-630-0070
ID	Steve Banks	steven_banks@blm.gov	208-373-3853	208-631-1624
MT				
NV	Danny Arnold	danny_arnold@blm.gov	775-861-6535	
NM	John Selkirk	john_selkirk@blm.gov	505-438-7431	505-660-5927
UT	Cameron Dingman	Cameron_dingman@blm.gov	801-539-4241	801-550-9857
WY	Jason Baldwin	Jason_baldwin@blm.gov	307-775-6256	607-630-0070

USFWS

R1,R8	Bob Van Buskirk	robert_vanbuskirk@fws.gov	503-231-2347	503-781-9443
R2	Steven McEvoy	steven_mcevoy@fws.gov	505-248-6628	
R3	Brian Lubinski	brian_lubinski@fws.gov	612-713-5442	612-616-5978
R4	Glen Cullingford	glenn_cullingford@fws.gov		321-431-9352
R5	Mark Koneff	mark_koneff@fws.gov	207-866-3344	301-980-0125
R6	Shawn Bayless	shawn_bayless@fws.gov	701-442-5474	701-426-9140
R7	Kevin Fox	Kevin_fox@fws.gov	907-271-5235	907-382-8404

NPS

AK	Ken Barnes	ken_barnes@nps.gov	907-644-3407	907-355-2756
ER	Meg Gallagher	meg_gallagher@nps.gov	404-507-5643	770-598-2359
IR	Steve Sorenson	steve_sorenson@nps.gov	303-969-2657	720-626-0738
PWR	Shad Sitz	shad_sitz@nps.gov	208-387-5227	208-949-8265
MSO	Jim McMahon	jim_mcmahill@nps.gov	402-661-1754	402-630-0685

For more information or updated contacts, please refer to your agencies website. Additional information may also be found in the *Interagency Aviation Technical Assistance Directory* a publication provided by the National Wildfire Coordination Group (www.nwccg.gov)

Appendix

Aircraft manager/pilot review

Is everything approved with clear instructions, aviation plan signed and reviewed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Have adequate landing areas been identified and or improved to minimum standards	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Are all agency personnel qualified for the mission?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Are there enough agency personnel to accomplish the mission safely?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Are all involved aware that the pilot has the final authority, but if any passenger feels uncomfortable, that they can decline the flight?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Fuel planning, adequate fuel on board, fuel truck location, availability of commercial fuel?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Hazard		Hazard Mitigation	
MTR's	Check routes in advance. Practice risk management, confirm that Dispatch has made contact with schedulers to de-conflict		
Private aircraft	See and avoid		
Airport traffic	Initiate and stay in radio contact on local airport frequency		
Weather	Use weather advisory. Maintain VFR minimums, cancel mission if necessary		
Terrain/Altitude/Temperature	Do not place the aircraft in performance related situations		
Low level obstacles	Complete a high level recon, no unnecessary low level flight		
Unimproved landings	Recon LZ. Download on first load. Stay in radio contact.		
Doors off helicopter operations	Use approved secondary restraint harness. Remove or secure loose items from cabin. Know VNE		
Pilot not familiar with area	Supply hazard maps. Complete high level recon prior to low level work, project area identified		
Noise, rotor wash	Wear ear and eye protection		
Internal and external loads	Qualified personnel assigned to the mission. Do not allow for over-flight of personnel, structures, other aircraft or traffic		
Unplanned aircraft events	All personnel equipped with required PPE		
Hazardous materials	Qualified personnel will handle, inform pilot		
Non aviation personnel	Maintain control, provide through briefings		
Communications	Maintain communications at all times, establish backup options, and know alternate frequencies. Take handheld radio along. Call in prior to landings. If radio contact is lost, gain altitude, check frequencies/tones, if unable to re-establish, return to best suitable landing area and check in via Phone.		
Allowable Payload/CG issues	Complete/insure accurate load calculations and/or Weight and Balance		
Wintertime operations	Use appropriate clothing for varying altitudes/climatic conditions, consider survival kit		
Rotor hazards	Pilot perform aircraft safety brief, Approach/Depart safely or after shutdown rotor stops		
Aircraft Fueling	Vendor responsibility. No agency personnel onboard. Aircraft shutdown unless closed circuit, open port in accordance with NFPA 407 3-21, 4073-21.2(b). Trained personnel staff extinguisher		
Missing Aircraft, Crash/Search & Rescue	Duties assigned for evacuation, suppression and flight following. Dispatch/Helibase responsible to have current Aviation Incident Response/Crash SAR Plan posted and ready to implement		
Project Manager signature:		Date:	

HELICOPTER CRASH RESCUE/MEDI-VAC PLAN

GENERAL INSTRUCTIONS			
In the event of an accident, the helicopter manager will supervise and coordinate the crash rescue activities. Specific crash rescue duties will be assigned to helibase personnel each morning before flights of any kind. Crash rescue and first aid equipment will be located near the helipad and equipment's location made known to all helibase personnel. Information and instructions will be sent/received through the local dispatch office or communications.			
SPECIFIC INFORMATION AND INSTRUCTIONS (Utilize cell phone if possible. Do not use names over the radio)			
1.	Nature of the injury(s)/illness		
2.	Is medical help needed? If available supply vital signs!		
3.	What transportation is needed? Is patient(s) ambulatory?		
4.	Location of victim.		
5.	Route to be taken (use land marks as guide).		
6.	Equipment needed.		
7.	Name of contact on site.		
8.	Notify appropriate agency line officer.		
EMT (S) ON PROJECT:			
AVAILABLE MEDIVAC HELICOPTERS			
FAA #	HEMG		
Litter/Rappel/Extraction Capable			
Remarks:			
FAA #	HEMG		
NEAREST MEDICAL FACILITY			
Location:			
Latitude:	Longitude:	Contact Freq	
	Latitude:	Longitude:	
NEAREST LIFEFLIGHT			
Type Aircraft	Phone Number	Location	
		Contact Freq	
Latitude:	Longitude:	Contact Freq	
Wind speed	Elevation	Temperature	
Terrain Factors		Helispot size	
Proximity of Helispot to Injury Site		Visibility/Sunrise/Sunset Limitations	
Flight Hazards			
Other Aircraft in Area (call signs & Frequencies)			

AVIATION RISK ASSESSMENT WORKSHEET

Describe Hazard: Pre-Mitigation hazards rate out as:	Probability (A-E)	Effect (I-IV)	Risk Level
1. Probability of aerial hazards/ General Aviation traffic, identified.			
2. Density Altitude- Hot, High, Heavy			
3. Low level/hanging torch obstacles			
4. Rotor wash/flying debris, Noise			
5. Lost materials or load			
6. Emergency landing			
Mitigation Controls: Post-Mitigation hazards rate out as:	Probability (A-E)	Effect (I-IV)	Risk Level
1. Monitor local airport frequencies/ FBO's to inform pilots that may come into area of operation of presence.			
2. Ensure pilots complete load calculations for the current and predicted conditions. Ensure sling loads are within weight limits.			
3. Post and review flight hazard maps daily at briefing. Complete high level recon of project area prior to starting operations.			
4. Ensure ground personal and those flying in aircraft are wearing required PPE. Carefully select and performing dust abatement at helispots, will reduce rotor wash and flying debris.			
5. Ensure all equipment is in working order at beginning of operations.			
6. Designated emergency landing site at the beginning of operations.			
Approved By (Line Officer or Designee):_/s/ _____ Title: _____ Date: _____			

RISK ASSESSMENT MATRIX			HAZARD PROBABILITY				
			Frequent	Likely	Occasionally	Seldom	Unlikely
			A	B	C	D	E
EFFECT	Catastrophic	I	Extreme	High		Medium	
	Critical	II	Extreme	High		Medium	
	Moderate	III	High	Medium		Low	
	Negligible	IV	High	Medium			
Hazard Risk Assessment Code			Appropriate Management Level for go/no-go decision				
Risk Level			Fire		Project		
I-A, I-B, II-A		EXTREMELY HIGH	Incident Commander or Operations Section Chief.		Line Manager		
I-C, I-D, II-B, II-C, III-A		HIGH	Incident Commander or Operations Section Chief		Line Manager		
I-E, II-D, III-B, III-C, IV-A		MEDIUM	Air Operations Branch Director		Forest Aviation Officer/ Unit Aviation Manager		
II-E, III-D, III-E, IV-B, IV-C, IV-D, IV-E		LOW	Helibase Manager		Helicopter or Flight Manager		

Helicopter Longline Sling Mission Job Hazard Analysis

Aircraft Manager/Pilot review with all participants as part of preflight briefing.

JOB HAZARD ANALYSIS (JHA) <i>(Instructions on next page)</i>	1. WORK PROJECT/ACTIVITY	2. LOCATION	3. UNIT
	4. Prepared By	5. JOB TITLE	6. DATE PREPARED
7. TASKS/HAZARDS	8. ABATEMENT ACTIONS		
Personnel Qualifications	-Helicopter Personnel shall be certified. Pilot and helicopter will be carded annually for Longline sling operations. Use of proper PPE by all. Pre- and Post Op briefings will be performed.		
Aircraft Avoidance	-See and avoid. Check MTR routes in advance. Practice risk management; confirm that Dispatch has made contact with schedulers to de-conflict. Fly established airport patterns, initiate and stay in radio contact.		
Weather	-Use weather advisory. Maintain VFR minimums, cancel mission if necessary.		
High/Hot/Heavy	-Performance planning complete/insure accurate load calculations. Do not place the aircraft in performance related situations.		
Low level obstacles	-Complete a high level recon, no unnecessary low level flight.		
Pilot not familiar with area	-Supply hazard maps. Complete high-level recon prior to low-level work, project area identified.		
Noise, rotor wash	-Wear ear and eye protection.		
Unplanned aircraft events	-All personnel equipped with required PPE and trained in crash procedures.		
Hazardous materials	-Qualified personnel will handle, review MSDS, inform pilot. Use proper PPE. Driver of Fuel Service Vehicles will have current Hazmat endorsement and comply w/all federal/state/local laws.		
Communications	-Flight following established, checked and followed, communication plan posted. Maintain communications at all times, establish backup alternate frequencies. Take handheld radio along. Call in prior to landing. If radio contact is lost return to best suitable landing area and check-in. All hand held electronic devices such as radios, pagers, cell phones, etc. shall be turned off within 50' of any fueling operations.		
Rotor hazards	-Pilot performs aircraft safety brief, approach/depart safely or after shutdown and rotors stop.		

Continued on the next page

Helicopter Longline Sling Project

Job Hazard Analysis

JHA Instructions	Emergency Evacuation Instructions
<p>The JHA shall identify the location of the work project or activity, the name of employee(s) writing the JHA, the date(s) of development, and the name of the appropriate line officer approving it. The supervisor acknowledges that employees have read and understand the contents, have received the required training, and are qualified to perform the work project or activity.</p> <p>Blocks 1, 2, 3, 4, 5, and 6: Self-explanatory.</p> <p>Block 7: Identify all tasks and procedures associated with the work project or activity that have potential to cause injury or illness to personnel and damage to property or material. Include emergency evacuation procedures (EEP).</p> <p>Identify all known or suspect hazards associated with each respective task/procedure listed in Block 7. For example:</p> <ol style="list-style-type: none"> a. Research past accidents/incidents b. Research the Health and Safety Code, FSH 6709.11 or other appropriate literature. c. Discuss the work project/activity with participants d. Observe the work project/activity e. A combination of the above <p>Block 8: Identify appropriate actions to reduce or eliminate the hazards identified in Block 8. Abatement measures listed below are in the order of the preferred abatement method:</p> <ol style="list-style-type: none"> a. Engineering Controls (the most desirable method of abatement). For example, ergonomically designed tools, equipment, and Furniture. b. Substitution. For example, switching to high flash point, non-toxic solvents. c. Administrative Controls. For example, limiting exposure by reducing the work schedule; establishing appropriate procedures and practices. d. PPE (least desirable method of abatement). For 	<p>Project Supervisor and crew members are responsible for developing and discussing field emergency evacuation procedures (EEP) and alternatives in the event a person(s) becomes seriously ill or injured at the worksite.</p> <p>Be prepared to provide the following information:</p> <ol style="list-style-type: none"> a. Nature of the accident or injury (<i>avoid using victim's name</i>). b. Type of assistance needed, if any (<i>ground, air, or water evacuation</i>) c. Location of accident or injury, best access route into the worksite (<i>road name/number</i>), identifiable ground/air landmarks. d. Radio frequency(s). e. Contact person. f. Local hazards to ground vehicles or aviation. g. Weather conditions (<i>wind speed & direction, visibility, temp</i>). h. Topography. i. Number of person(s) to be transported j. Estimated weight of passengers for air/water evacuation. <p>The items listed above serve only as guidelines for the development of emergency evacuation procedures.</p>
<p>JHA and Emergency Evacuation Procedures Acknowledgment</p> <p>We, the undersigned Project Supervisor and crewmembers, acknowledge participation in the development of this JHA (as applicable) and accompanying emergency evacuation procedures. We have thoroughly discussed and understand the provisions of each of these documents:</p>	
<p>SIGNATURE</p> <p>DATE</p>	<p>SIGNATURE</p> <p>DATE</p>

PROJECT AVIATION SAFETY PLAN BRIEFING

A copy of this briefing page will be submitted to the Agency Forest Aviation Officer/Unit Aviation Manager within 5 days of the completion of this project.

Briefing Leader: _____

Briefing Date: _____ Time: _____ Location: _____

Discussion Items:

- a. Hazard Analysis (as outlined in plan)
- b. Safety Air Ops (Ground)
- c. Safety Air Ops (Flight)
- d. Military Training Routes
- e. Flight Following
- f. Frequencies
- g. Fueling
- h. Emergency Evacuation. Plan
- i. Authorities
- j. Weather Considerations
- k. Other

Attendees Signature and Concurrence:
