Helibase Manager
S-371

NFES 2886

Student Workbook
MARCH 2007

CERTIFICATION STATEMENT

on behalf of the

NATIONAL WILDFIRE COORDINATING GROUP

The following training material attains the standards prescribed for courses developed under the interagency curriculum established and coordinated by the National Wildfire Coordinating Group. The instruction is certified for interagency use and is known as:

Helibase Manager, S-371
Certified at Level I

This product is part of an established NWCG curriculum. It meets the COURSE DEVELOPMENT AND FORMAT STANDARDS – Sixth Edition, 2003 and has received a technical review and a professional edit.

Member NWCG and Training Working Team Liaison

Date 3/1/2007

Chairperson, Training Working Team

Date 2/21/07

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Sponsored for NWCG publication by the NWCG Training Working Team.

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Additional copies of this publication may be ordered from National Interagency Fire Center,
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PREFACE

Helibase Manager, S-371 has been developed by an interagency development group with guidance from the National Interagency Fire Center (NIFC), Fire Training under the authority of the National Wildfire Coordinating Group (NWCG). The development group consists of the following representatives:

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Helibase Manager, S-371

Unit 0 – Introduction

OBJECTIVES:

During this unit the instructor will:

1. Introduce the course coordinator, instructors, and students.
2. Discuss administrative concerns.
3. Introduce the course and describe the responsibilities of a Helibase Manager.
4. Explain student work groups and coaches/mentors.
5. Discuss student and instructor expectations.
6. Explain course evaluation methods.

I. INSTRUCTOR INTRODUCTIONS

II. STUDENT INTRODUCTIONS

Exercise: Helibase Organization/Introductions

This exercise will illustrate how the ICS 211 may be used as a method to gather information on qualifications of personnel in an actual helibase situation.

In pairs, use the ICS 211 to gather the following information about each other:

- Name
- Home unit (agency, station, etc.)
- Job title and duties.
- Incident qualifications and incident experience.
- What key position would you be qualified for on a helibase.
- Why are you best suited for this position.

III. ADMINISTRATIVE CONCERNS

IV. COURSE OVERVIEW

This course was developed based on the tasks in the Helibase Manager Position Task Book (PTB).

A. Helibase Manager Responsibilities

As a Helibase Manager, you will move from a support role within the helibase operations, to managing the overall daily helibase operations.

The daily tasks required of the Helibase Manager are a constant and ongoing process.

The responsibilities of a Helibase Manager are listed in the Air Operations section of the Fireline Handbook (FHB) and the HEB2 Position Task Book.

1. The skills are the same for both HEB1 and HEB2:

   - In the current performance based system, students must complete the tasks in the PTB to become qualified as a Helibase Manager Type 2 (HEB2).

   - To become qualified as a Helibase Manager Type 1 (HEB1) this process must be completed again.

2. The complexity increases from HEB2 to HEB1:

   - HEB2 – 1 to 3 helicopters
   - HEB1 – 4 or more helicopters
   - Interagency
   - Military operations
   - All risk missions

   Simulated situations and sharing of experiences from both the instructor cadre and the student group will be presented to aid in the process of becoming a Helibase Manager.

B. Course Objective

At the successful completion of this course the students will be able to:

- Perform the tasks required of a Helibase Manager to develop, organize, and manage a helibase in given simulations and exercises to support incident activities.

V. STUDENT WORK GROUPS AND COACHES/MENTORS

Student participation is essential for successful completion of this course.

A. Student Work Groups

1. Group participation is emphasized because helibase operations require that the Helibase Manager interact with many people in various jobs and functions.

2. Successful coordination between the various people and functions is the key to success as a Helibase Manager.

B. Coaches/Mentors

1. Students will be coached, mentored, and evaluated by their assigned member of the instructor cadre.

2. Coach/mentor will be available to help and answer any questions the students may have.

3. Coach/mentor will be available to help students keep on track for all exercises.

VI. COURSE EXPECTATIONS

A. Student Expectations

1. What do you expect to learn from this course?

2. Why do you want to become a Helibase Manager?

B. Instructors' Expectations

The student will:

- Have an interest in becoming a Helibase Manager.
- Exhibit mutual cooperation with the group.
- Be open minded to accomplishments during the course.
- Use what is presented in the course to perform as a Helibase Manager.
- Participate actively in all exercises and simulations presented in the course.
- Return to class at stated times.

VII. EVALUATION METHODS

A. Measuring Student Performance

Students will be evaluated by a member of the instructor cadre based on the following categories:

- Pre-course test: 10%
- Class participation: 30%
- Exercise participation (group): 30%
- Exercise participation (individual): 30%

Students must achieve a total of 70% in order to receive credit for successfully completing this course.

B. ICS 214 Unit Log

The ICS 214 provides valuable reference notes. It is used to document incident events for each operational period.

1. Students will use an ICS 214 to record events and scenarios from the IAP, and any other information that will help them in this class and in future assignments as helibase managers.

2. The coaches/mentors will review the completed Unit Logs then return them to the students to use during class exercises.

C. Unit Evaluations

The unit evaluation provides students the opportunity to give feedback throughout the course. Students will complete a unit evaluation at the conclusion of each unit.

0.8

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Individual Course Grade Sheet

Student Name: _____

Coach/Mentor: _____

Agency: _____

Mailing Address: _____

_____

_____

(City, State, Zip)

EVALUATION ELEMENT	ELEMENT GRADE %		% OF TOTAL		RELATIVE WEIGHT
Class Participation	_____	X	.30	=	_____
Pre-Course Test	_____	X	.10	=	_____
Exercise Participation (group)	_____	X	.30	=	_____
Exercise Participation (individual)	_____	X	.30	=	_____
			FINAL GRADE		

Lead Instructor:_____ _____

Signature Date

The final grade is a minimum indication of the student's ability to successfully perform the tasks presented in Helibase Manager, S-371.

A minimum final grade of **70%** has been established for successful completion of this course. Students who fail to meet this standard must acquire the knowledge and skills by re-taking the course or through on-the-job training.

Helibase Manager, S-371

Unit 1 – Common Responsibilities, Procedures, and Duties

OBJECTIVES:

Upon completion of this unit, students will be able to:

1. Identify key incident information necessary to begin helibase operations.

2. Identify the responsibilities of the helibase manager necessary to promote positive interpersonal and interagency working relationships.

3. Review and discuss applicable business management principles needed to manage an incident helibase.

I. KEY INCIDENT INFORMATION

A. Prior to Arrival

What should a helibase manager do prior to arriving at the incident?

- Review the position descriptions of the air branch.
- Prepare related gear ahead of time.
- Inventory your Helibase Manager kit.
- Gather incident information, current and potential, if available.
  - Resource order
  - Directions to fire/helibase
  - Estimated driving time
  - Point of contact
  - Frequencies being used
  - Current number and type of helicopters on scene
  - Number and types of helicopters on order

B. Arrival at Incident

What initial incident briefing information will you need?

- Obtain and review IAP
- Resource information
- Current operations
- Expected operations
- Expected duration
- Helibase site selection/location/hazards
- Current organization and personnel
- Outstanding resource orders
- Orders that need to be initiated
- Adequate personnel support for all helicopter operations
- Identify responsibilities within the chain of command

C. Primary Helibase Considerations

When reporting to a helibase where operations are in progress, what are some of your primary considerations?

- Are operations safe enough to allow you to continue?
- Are managers assigned and present?
- Ensure helicopter managers check pilot and aircraft carding.
- Are modules assigned?
- Have all personnel been briefed?

II. WORKING RELATIONSHIPS

A. Interagency Relationships

What are some interagency considerations for the helibase manager?

- Agency specific policies that may affect operations.
- Different agency forms
- Accommodations (motel rooms)
- Length of operational period (duty limitations)
- Military operations

B. Positive Working Relationships

What are some methods to promote positive working relationships?

- EEO considerations
  - Avoid improper jokes.
  - Stop violation of EEO policies when observed.
- Lead by example
  - Wear appropriate safety gear.
  - Conduct yourself in appropriate manner.
- Awareness of crew dynamics
  - Intracrew relationships.
  - How crews work with each other.
  - CWN vs. regular agency crews.
- Utilize methods for mixing or matching to meet your needs.
- Recognize cultural differences.

C. Provide Training Opportunities

What can be gained by incorporating training on your helibase?

- Use to integrate
- Develop personnel

Use Incident Training Specialists when necessary for task book administration, etc.

D. Helibase Manager Responsibilities

1. Why are working relationships a responsibility of the helibase manager?

   - To manage multiple resources for the good of the team.
   - To ensure a safe and efficient operation.

2. Thoughts to consider in any aviation operation:

   - You are now in charge of a sacred trust, the safety of human lives.
   - You must not let undue pressure (expressed or implied) influence your judgment during the performance of your duties.
   - You must be able to develop “a team” in which members must participate and contribute to the safety of the operation.
   - You must delete false pride, calculated risk, real world, and “good enough for government work” from your professional vocabulary.
   - You will not be criticized or stigmatized for any decision you make which will ensure added safety to an operation.
   - You must not let your actions instill the attitude of competition between pilots.
     – This attitude may hinder their performance and may compromise the safety of the mission.

“We manage people, who manage aircraft”

“Take care of people first”

E. Available Information Sources

What sources can the helibase manager go to for help?

- Chain of command
- Human resource specialist
- Agency representatives
- Host unit
- Geographic area aviation specialists

III. FISCAL RESPONSIBILITIES

A. Fiscal Concerns

What are areas of concern related to fiscal accountability?

- Cost effectiveness/efficiency
- Contract costs/rates
- Personnel accommodations
- Pilot duty day limitations
  - 14 hours duty day
  - 8 hours of flight time
  - 10 hours of uninterrupted rest

  Pilot duty limitations may be subject to change in special situations such as military operations or extremely long and busy fire seasons.

B. Daily Fiscal Responsibility Practices

What are some important daily fiscal responsibility practices?

- Daily aircraft costs
- Crew times
- Contract equipment/shift tickets

EXERCISE: Incident Action Plan

Based on the Day 1 IAP:

1. Who is the AOBD/ASGS?

2. What's planned for today?

3. What is the flight following frequency?

4. What are the local flight hazards?

5. What are your assigned resources?

6. What is the air to ground frequency?

IV. TRICKS OF THE TRADE

Before arriving at the incident:

- Pick up a phone book at the airport
- Pick up forest and road maps

EXERCISE: Unit Log

Complete an ICS 214 for this unit and hand it into your coach/mentor when finished.

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Unit 2 – Helibase Organization

OBJECTIVES:

Upon completion of this unit, students will be able to:

1. Describe an effective helibase organization.

2. Describe methods for coordinating helibase activities.

I. HELIBASE ORGANIZATION

A. Personnel Qualifications

1. Review personnel qualifications when time permits.

2. Knowing assigned personnel and their red card qualifications may reveal special talents which will prove useful in the future.

3. Don't rule out changing personnel assignments; be flexible.

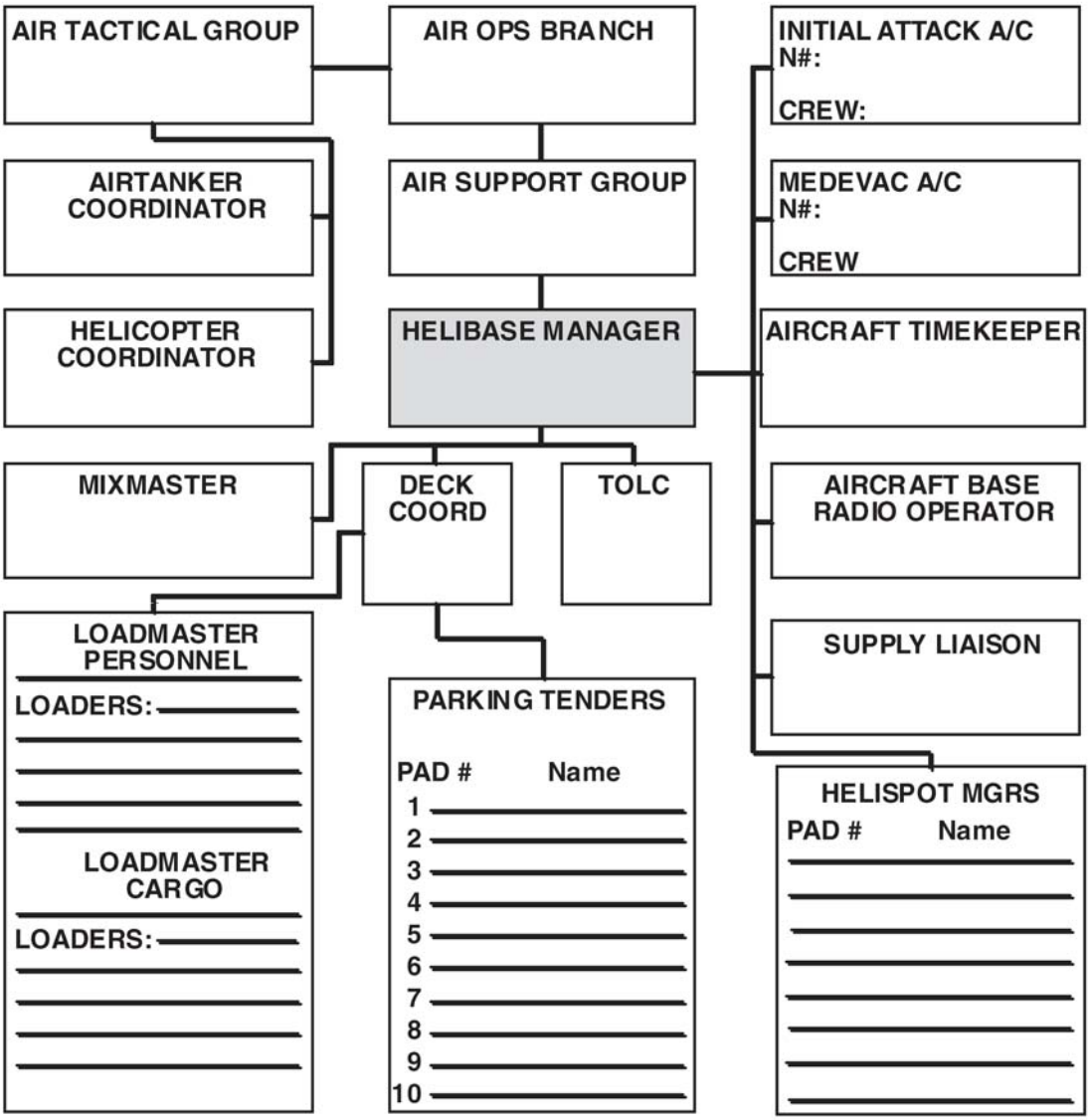
4. Based upon your experience, what positions do you feel require the highest skill levels?

B. Key Organizational Positions Requiring Experienced Personnel

- Helispot manager
- Deck coordinator
- Radio operator
- Take-off and landing coordinator
- Loadmaster
- Mixmasters
- Aerial ignition specialist

What are the important aspects of each of these positions?

Helibase Organization



C. Helibase Display Board Charts

1. Organizational chart
2. Current flight hazards map
3. Incident map
4. Flight route pattern map
5. Helibase layout map
6. Current load calculations
7. IAP (daily)
8. Crash-rescue plan
9. Operational checklist

D. Interaction with Other Incident Functional Units

1. A helibase operation will often interact with more ICS functional units and positions than any other operation on the incident.

2. Developing an early rapport with these units is critical to the operation.

3. What are unit/functions that require good working relationships? Why?

   - Supply
   - Facilities
   - Security
   - Food unit
   - Ground support
   - Operations
   - Plans
   - Finance

II. COORDINATING HELIBASE ACTIVITIES

A. Flying cargo and supplies out of helibase may cause some problems (mix-ups, delays, etc.).

What are some ways to reduce these problems?

1. Assign a helitack person to supply.

2. Insist that all requests for equipment and supplies go through communications to the supply unit.

3. Meet with the supply unit's key players early in the incident.

4. Ask that all supplies delivered to the helibase be marked with destination and weights.

B. Feeding the personnel required to staff a large helibase at the base camp can often require long travel times and late dinners.

What are some methods the helibase manager can use to accommodate helibase personnel?

1. Request that dinner be delivered to the helibase.

2. Request that a satellite kitchen unit and staff be set up at the helibase is another good alternative.

C. Air support supervisors can become spread very thin on a large and complex incident.

What can be done to free up time for the air support group supervisor?

1. Ordering supplies directly can save time and effort.

2. Discuss this option with air support - always keep them advised!

D. Finance normally requires a daily helibase cost summary.

What are some suggestions that would expedite this requirement?

1. Establish procedures with air support to turn in cost summary to finance.

2. Assign a person to deal with this task and deliver to finance personally.

3. Ask finance how they want this prepared. What's required?

E. To be successful, the helibase manager must organize information.

1. Prioritize missions – make them known.

2. Never compromise on safety.

3. Be flexible to changing missions.

EXERCISE: Unit Log/Cost Summary

Refer to the following forms:

- Helibase daily use and cost summary form (SW page 2.11)

- Helicopter daily use and cost summary sheets (SW pages 2.13 – 2.14)

Using the information from the helicopter daily use and cost summary sheets, fill out the blank helibase daily use and cost summary form.

Complete an ICS 214 for this unit and turn it in with the helibase daily use and cost summary form.

III. TIPS

- Develop a strong working relationship with the incident operations section chief as well as the air operations branch director.

- The helibase manager is the helicopter expert. Keep other incident personnel advised of what can and cannot be accomplish for the operation.

- The operations section chief may not get this information any other way.

HELIBASE DAILY USE AND COST SUMMARY

SUBMIT TO THE AIR SUPPORT OR AIR OPERATIONS DIRECTOR AT THE END OF EACH OPERATIONAL PERIOD; USE ADDITIONAL SHEETS AS NECESSARY

OPERATIONAL PERIOD: _____ HELIBASE NAME: _____ INCIDENT/PROJECT NAME: _____ HELIBASE MANAGER: _____

			USE						COSTS
AIRCRAFT REGISTRATION NUMBER	MAKE/MODEL	TYPE (1,2, OR 3)	TOTAL PAX TRANSP	LBS. CARGO MOVED	GALLONS WATER DELIV	GALLONS FOAM DELIV	GALLONS RETARDANT DELIV	ACTUAL FLIGHT HRS	TOTAL AIRCRAFT COST *
									$
									$
									$
									$
									$
									$
									$
									$
									$
									$
									$
									$
TOTAL FOR HELIBASE:									$

COST OF MATERIAL FOR HELIBASE DUST ABATEMENT (if applicable): $

TOTAL COST OF HELIBASE THIS OPERATIONAL PERIOD: $

Total Cost = FT Cost (or daily guarantee cost if minimum flight hours not met on CWN aircraft) + Daily Availability (CWN Aircraft only) + Extended Standby For Pilot/Mechanic/Driver + Subsistence + Service Truck Miles + Retardant/Foam Cost. Obtain from individual Helicopter Daily Use and Cost Summaries.

HELICOPTER DAILY USE AND COST SUMMARY

(Submit to Helibase Manager at End of Each Day's Operations)

HELIBASE: Wildfire DATE: __/__/Day 2 HELICOPTER N #: 370EH

MAKE/MODEL: Bell 212 MANAGER'S NAME: Mathiesey

TYPE: __1X__ 2 __ 3 __ CWN X CONTRACT __OTHER (Specify): _____

FLIGHT INVOICE REFERENCE NUMBER(S): _____

FLIGHT TIME (HRS)		HOURLY RATE	COSTS:		
5.6	x	681.00	= TOTAL FT COST:	$	3,813.60
AVAIL (HRS or DAY)*		HRLY OR DAILY RATE	+		
	x		= TOTAL AV COST:	$	
EXTENDED PILOT STANDBY		HOURLY RATE	+		
5.0	x	29.00	= TOTAL EP COST:	$	145.00
EXT. DRIVER STANDBY		HOURLY RATE	+		
5.0	x	29.00	= TOTAL ET COST:	$	145.00
EXT. MECHANIC STANDBY		HOURLY RATE	+		
5.0	x	29.00	= TOTAL EM COST:	$	145.00
# OF CREWMEMBERS		R.O.N. (FS) RATE/DAY	+		
4	x	66.00	= TOTAL FS COST:	$	264.00
SERVICE TRUCK MILES		RATE/MILE	+		
	x		= TOTAL SM COST:	$	
GALLONS FOAM CONCENTRATE USED		COST/ GALLON	+		
	x		= TOT FOAM COST:	$	
GALLONS RETARDANT USED		COST/ GALLON	x		
	x		= TOT RET. COST:	$	
SPECIAL EQUPMENT (Radio, FLIR, Longline/Remote Hook, Agency-Supplied Fuel, etc.)			= TOT SPECIAL COST:	+	
			TODAY'S TOTAL COSTS:	$	4,512.60

USE:

TOTAL PASSENGERS TRANSPORTED	TOTAL LBS CARGO DELIVERED	TOTAL GALLONS WATER	TOTAL GALLONS RETARDANT	TOTAL GALLONS FOAM
105	3,500			11,900

COMMENTS:

* Do not calculate for exclusive use contracts where availability is paid from presuppression funds.

HCM-17 (Test)
(May, 1994)

HELICOPTER DAILY USE AND COST SUMMARY

(Submit to Helibase Manager at End of Each Day's Operations)

HELIBASE: Wildfire DATE: __/__/__ Day 2 HELICOPTER N #: 6093R

MAKE/MODEL: AS 350 B2 MANAGER'S NAME: Little

TYPE: __1 __2 X 3 __CWN X CONTRACT __OTHER (Specify): _____

FLIGHT INVOICE REFERENCE NUMBER(S): _____

FLIGHT TIME (HRS)		HOURLY RATE	COSTS:		
6.1	x	461.00	= TOTAL FT COST:	$	2,812.10
AVAIL (HRS or DAY)*		HRLY OR DAILY RATE	+		
	x		= TOTAL AV COST:	$	
EXTENDED PILOT STANDBY		HOURLY RATE	+		
6.0	x	35.00	= TOTAL EP COST:	$	210.00
EXT. DRIVER STANDBY		HOURLY RATE	+		
	x		= TOTAL ET COST:	$	
EXT. MECHANIC STANDBY		HOURLY RATE	+		
6.0	x	22.00	= TOTAL EM COST:	$	132.00
# OF CREWMEMBERS		R.O.N. (FS) RATE/DAY	+		
2	x	66.00	= TOTAL FS COST:	$	132.00
SERVICE TRUCK MILES		RATE/MILE	+		
85	x	.80	= TOTAL SM COST:	$	68.00
GALLONS FOAM CONCENTRATE USED		COST/ GALLON	+		
	x		= TOT FOAM COST:	$	
GALLONS RETARDANT USED		COST/ GALLON	x		
	x		= TOT RET. COST:	$	
SPECIAL EQUPMENT (Radio, FLIR, Longline/Remote Hook, Agency-Supplied Fuel, etc.)			= TOT SPECIAL COST:	+	
			TODAY'S TOTAL COSTS:	$	3,354.10

USE:

TOTAL PASSENGERS TRANSPORTED	TOTAL LBS CARGO DELIVERED	TOTAL GALLONS WATER	TOTAL GALLONS RETARDANT	TOTAL GALLONS FOAM
21	400			

COMMENTS:

* Do not calculate for exclusive use contracts where availability is paid from presuppression funds.

HCM-17 (Test)
(May, 1994)

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Unit 3 – Helibase Briefings

OBJECTIVES:

Upon completion of this unit, students will be able to:

1. Describe methods to initially assess resource needs.

2. Describe a method for displaying helibase organizational information.

I. INITIAL RESOURCE ASSESSMENT

A. Initial Assessment

The helibase manager may arrive after a helibase operation has begun.

As a manager in any situation, what would be the logical first step?

- Assess the current workings of the base including:
  - Positions filled
  - Aircraft assigned
  - Aircraft expected
  - Expected duration of incident
  - Skill levels of personnel on the base

B. Common Mistakes

What are some common mistakes that a helibase manager might make?

- Coming on too strong too fast
- Tunneling in – doing too much
- Not letting go – delegate!
- Not listening
- Not establishing who's responsible for what
- Micromanaging
- Being too laid back
- Not making decisions when needed

C. Helibase Information Boards

These boards are:

- A valuable place for location of helibase information.
- Utilized to help in managing that information.
- A quick reference for resource location and identification.
- Providing the same information to all personnel.

II. THREE BASIC TYPES OF HELIBASE BRIEFINGS

Briefings are merely a means to convey information and should be short.

The primary intent is to keep all personnel as well informed as possible, thus providing a safer and more efficient operation.

A. Pre-operational Briefings

The pre-operational briefing should outline the planned missions and priorities for the day.

At a minimum, it should include the items contained in the daily operations briefing checklist (IHOG, Appendix F):

- Organization and personnel
- Communications
- Landing areas
- Safety
- Operations
- Administration
- Debriefing (successes/problems)

B. Post-Operational Briefings

1. De-briefings conducted at the conclusion of an operational period.

2. Address problems or special situations that were encountered during the operational period that just concluded.

3. Present any information that may be related to the next day's activities.

C. Special/Safety Briefing

1. Special briefing to correct any unsafe situations that have developed during the operational period.

2. Address any immediate safety concerns.

3. Address any changes in the operations that may compromise safety.

    - Visibility changes
    - Overcrowded helibase
    - Overloaded radio frequency
    - Air traffic control breakdown
    - Several cargo/troop shuttle mix-ups

D. Other Helibase Briefings

What other types of briefings occur on a helibase?

1. New pilot briefings

2. Individual pilot briefings to account for staggered start times.

3. Crash rescue personnel

4. Medical personnel

5. Air Support

E. Key Points of a Briefing

Once the initial fact finding of a mission is complete, your first priority is to give a briefing that addresses the following key points:

- Basic priorities and missions
- Flight plan
  - Routes and known hazards
- Radio frequencies and procedures
- Safety considerations
  - Develop a rapport
  - Maintain an open line of communication

- Crash rescue procedures
- Medevac procedures
- What are your expectations
- Environmental/historical concerns
- Be receptive to input/suggestions

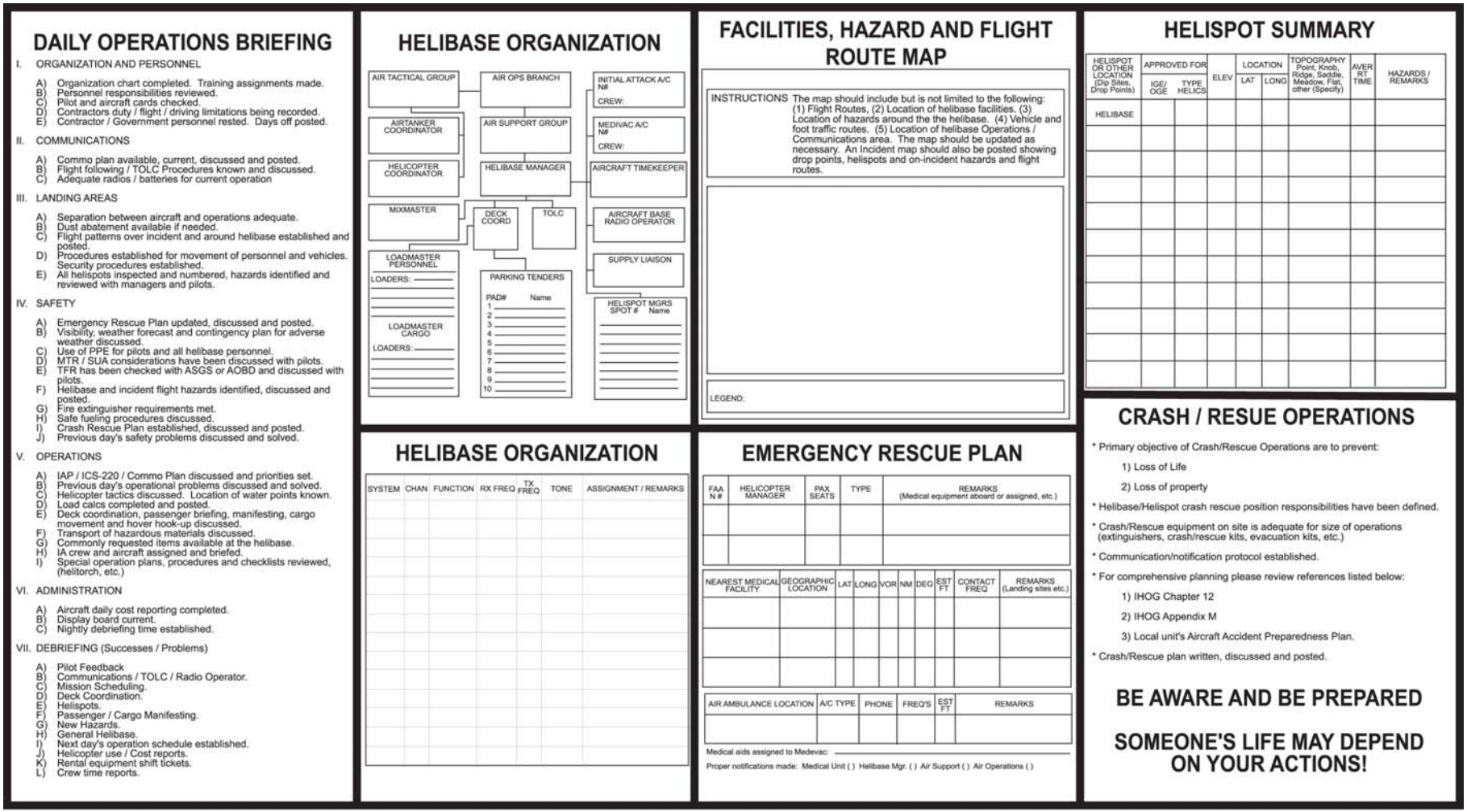
All briefings should start on time! Be strict on this; it sets the tone for future expectations.

EXERCISE: Helibase Briefing

Prepare a pre-operational briefing based on the Day 2 IAP and any other known information available.

Use any tools or aids available that will assist you in giving a complete and effective operational briefing.

Select a spokesperson to give your briefing to the class.



DAILY OPERATIONS BRIEFING

I. ORGANIZATION AND PERSONNEL

A) Organization chart completed. Training assignments made.
B) Personnel responsibilities reviewed.
C) Pilot and aircraft cards checked.
D) Contractors duty / flight / driving limitations being recorded.
E) Contractor / Government personnel rested. Days off posted.

II. COMMUNICATIONS

A) Commo plan available, current, discussed and posted.
B) Flight following / TOLC Procedures known and discussed.
C) Adequate radios / batteries for current operation

III. LANDING AREAS

A) Separation between aircraft and operations adequate.
B) Dust abatement available if needed.
C) Flight patterns over incident and around helibase established and posted.
D) Procedures established for movement of personnel and vehicles. Security procedures established.
E) All helispots inspected and numbered, hazards identified and reviewed with managers and pilots.

IV. SAFETY

A) Emergency Rescue Plan updated, discussed and posted.
B) Visibility, weather forecast and contingency plan for adverse weather discussed.
C) Use of PPE for pilots and all helibase personnel.
D) MTR / SUA considerations have been discussed with pilots.
E) TFR has been checked with ASGS or AOBD and discussed with pilots.
F) Helibase and incident flight hazards identified, discussed and posted.
G) Fire extinguisher requirements met.
H) Safe fueling procedures discussed.
I) Crash Rescue Plan established, discussed and posted.
J) Previous day's safety problems discussed and solved.

V. OPERATIONS

A) IAP / ICS-220 / Commo Plan discussed and priorities set.
B) Previous day's operational problems discussed and solved.
C) Helicopter tactics discussed. Location of water points known.
D) Load calcs completed and posted.
E) Deck coordination, passenger briefing, manifesting, cargo movement and hover hook-up discussed.
F) Transport of hazardous materials discussed.
G) Commonly requested items available at the helibase.
H) IA crew and aircraft assigned and briefed.
I) Special operation plans, procedures and checklists reviewed, (helitorch, etc.)

VI. ADMINISTRATION

A) Aircraft daily cost reporting completed.
B) Display board current.
C) Nightly debriefing time established.

VII. DEBRIEFING (Successes / Problems)

A) Pilot Feedback
B) Communications / TOLC / Radio Operator.
C) Mission Scheduling.
D) Deck Coordination.
E) Helispots.
F) Passenger / Cargo Manifesting.
G) New Hazards.
H) General Helibase.
I) Next day's operation schedule established.
J) Helicopter use / Cost reports.
K) Rental equipment shift tickets.
L) Crew time reports.

HELIBASE ORGANIZATION

AIR TACTICAL GROUP
AIR OPS BRANCH
INITIAL ATTACK A/C N#
CREW:
AIRTANKER COORDINATOR
AIR SUPPORT GROUP
MEDIVAC A/C N#
CREW:
HELICOPTER COORDINATOR
HELIBASE MANAGER
AIRCRAFT TIMEKEEPER
MIXMASTER
DECK COORD
TOLC
AIRCRAFT BASE RADIO OPERATOR
LOADMASTER PERSONNEL
LOADERS:
SUPPLY LIAISON
PARKING TENDERS
PAD# Name
1
2
3
4
5
6
7
8
9
10
HELISPOT MGRS SPOT # Name
LOADMASTER CARGO
LOADERS:

FACILITIES, HAZARD AND FLIGHT ROUTE MAP

INSTRUCTIONS The map should include but is not limited to the following: (1) Flight Routes, (2) Location of helibase facilities. (3) Location of hazards around the the helibase. (4) Vehicle and foot traffic routes. (5) Location of helibase Operations / Communications area. The map should be updated as necessary. An Incident map should also be posted showing drop points, helispots and on-incident hazards and flight routes.

LEGEND:

HELISPOT SUMMARY

HELISPOT OR OTHER LOCATION (Dip Sites, Drop Points)	APPROVED FOR		ELEV	LOCATION		TOPOGRAPHY Point, Knob, Ridge, Saddle, Meadow, Flat, other (Specify)	AVER RT TIME	HAZARDS / REMARKS
	IGE/ OGE	TYPE HELICS		LAT	LONG			
HELIBASE								

HELIBASE ORGANIZATION

SYSTEM	CHAN	FUNCTION	RX FREQ	TX FREQ	TONE	ASSIGNMENT / REMARKS

EMERGENCY RESCUE PLAN

FAA N #	HELICOPTER MANAGER	PAX SEATS	TYPE	REMARKS (Medical equipment aboard or assigned, etc.)

NEAREST MEDICAL FACILITY	GEOGRAPHIC LOCATION	LAT	LONG	VOR	NM	DEG	EST FT	CONTACT FREQ	REMARKS (Landing sites etc.)

AIR AMBULANCE LOCATION	A/C TYPE	PHONE	FREQ'S	EST FT	REMARKS

Medical aids assigned to Medevac: _____

Proper notifications made: Medical Unit ( ) Helibase Mgr. ( ) Air Support ( ) Air Operations ( )

CRASH / RESUE OPERATIONS

* Primary objective of Crash/Rescue Operations are to prevent:
  1) Loss of Life
  2) Loss of property
* Helibase/Helispot crash rescue position responsibilities have been defined.
* Crash/Rescue equipment on site is adequate for size of operations (extinguishers, crash/rescue kits, evacuation kits, etc.)
* Communication/notification protocol established.
* For comprehensive planning please review references listed below:
  1) IHOG Chapter 12
  2) IHOG Appendix M
  3) Local unit's Aircraft Accident Preparedness Plan.
* Crash/Rescue plan written, discussed and posted.

BE AWARE AND BE PREPARED

SOMEONE'S LIFE MAY DEPEND ON YOUR ACTIONS!

NFES 2866 S-371 Helibase Manager, Helibase Display Board Part 1 (2007)

AVIATION SAFETY MESSAGE

12 Standard Aviation Questions That Could Save Your Life

1. Is this flight necessary?
2. Who is in charge?
3. Are all hazards identified, and have you made them known?
4. Should you stop the operation or flight due to:

   Communications? Weather? Personnel?
   Turbulence? Confusion? Conflicting Priorities?

5. Is there a better way to do it?
6. Are you driven by an overwhelming sense of urgency?
7. Can you justify your actions?
8. Are there other aircraft in the area?
9. Do you have an escape route?
10. Are there any rules being broken?
11. Are communications getting tense?
12. Are you deviating from the assigned operation or flight?

If any questions cause concern, it becomes your responsibility to discontinue the operation until you are confident that you can continue safely.

Aviation is a personal responsibility. Your life and the lives of others depend upon your actions!

ALLOWABLE WEIGHT CHART

	ELV											
TEMP	A/C #	HIGE/HOGE		HIGE/HOGE		HIGE/HOGE		HIGE/HOGE		HIGE/HOGE		HIGE/HOGE	

HELIBASE AIRCRAFT INFO SUMMARY

LAST UPDATE:_____

FAA N #	MAKE/ MODEL	CNTR. CWN OR OTHER?	VENDOR	MANAGER NAME + # IN MODULE	$ FT HR	$ AV DAY	PAX SEATS	REMARKS (Relief Pilot, Capabilities, etc.)

PILOT FLIGHT HOUR RECORD

FLT HRS / LAST 5 DAYS / PILOT NAME	DATE																			

Helibase Manager, S-371

Unit 4 – Helibase/Helispot Selection and Layout

OBJECTIVES:

Upon completion of this unit, students will be able to:

1. Given a particular site, evaluate options and determine a helibase layout that best meets incident needs.

2. Identify common helispot management problems and resolutions.

I. HELIBASE SITE SPECIFICATIONS

A. Critical Information

What critical information must you have prior to site selection and where do you get it?

- Current resources assigned.
- Resources ordered.
- Potential growth and increase in complexity of the incident.

B. Considerations for Evaluating Sites

What aspects must you evaluate, and where do you get the information needed to properly evaluate operational needs?

- Hazards
- Available space
- Room to expand
- Road access
- Utilities available (water, electricity, phone)
- Parking
- Altitude considerations (inversions)
- Dust
- Ground surface cover
- Traffic patterns
- Airspace coordination (TFRs)

- Endangered species, sensitive habitat
- Fueling areas
- Communications
- Land ownership

C. Items/Areas to Include in Helibase Layout

- Aerial Hazards
- Landing pads
- Vehicle parking and movement
- Fueling areas
- Bus access and turnarounds
- Cargo area/longline operations
- Personnel staging areas
- Personnel loading zones
- TOLC/radio operator location
- Check in
- Approach and departure paths
- Sleeping areas
- Security
- Wind indicator

D. Site Selection Advisors

- Local agency representative
- Resource advisor
- Dispatch office
- Landowners if they can be located

EXERCISE: Site Layout, Part 1

Instructions:

Update your helibase display boards using the Day 3 IAP. Each group will then lay out the site assigned and create a helibase map based on the Day 3 IAP. You may also refer to:

- Elements of Helibase Site Selection (SW pages 4.9 – 4.13)

- Helibase Site Selection (SW pages 4.15 – 4.20)

EXERCISE: Site Layout, Part 2

Answer the following questions on a flip chart to present to the class.

1. What supplies/equipment need to be ordered to support the selected site?

2. What methods can be utilized to acquire necessary supplies and equipment?

II. IDENTIFY HELISPOT MANAGEMENT CONCERNS AND ISSUES

A. What are key helispot management concerns?

- Selection and construction
- Safety standards met
- Clearly marked and known to all
- Well managed
- Good radio communications
- Escape routes and safety zones
- Minimum Impact Suppression Tactics (MIST) policy and procedures

B. How can we manage for the above concerns?

- Delegate selection and construction to qualified personnel.
- Monitor activities.
- Obtain feedback (managers, pilots).
- Delegate inspection.
- Establish communications before approval of helispot.
- Work with other resources to establish escape routes and safety zones.
- Follow MIST guidelines as necessary.

C. The Real World

- Helispots are usually selected by the overhead team.
- Helispot numbering changes often unknown to the Helibase Manager.
- Coordination between the Helibase Manager and the operation/ planning sections is essential. DIVS must be notified when helispots are staffed.
- MIST guidelines should not compromise safety.

Helispot, dip sites, and retardant plant operations can quickly become as, or more complex than, those on the main helibase.

The Helibase Manager must recognize that this situation occurs and must plan accordingly.

III. TIPS

- Assign a person the task of helibase documentation (perhaps the student helibase manager).
- Create and post a sign telling visitors where to check in and how to obtain a flight.
- Reserve ten helispot numbers per division. When numbering helispots, reserve ten numbers per division to prepare for additional spots; for example, Division B would start with helispot #20 and Division C would start with #30.
- Ensure spike camps are a safe distance away from helispots.
- Ensure that helispot markings are clearly visible from the air.

- Mark power line hazards on the ground using orange panels supplied in the helibase support kit.

- Consider alternative forms of communications (cell or sat phones, repeaters, VHF).

EXERCISE: Unit Log

Complete an ICS 214 for Day 3 and hand in to your coach/mentor when finished. The coach/mentor will review them, make any beneficial notes, and return them as soon as possible (some of the information in the ICS 214 may be needed for reference in other units).

ELEMENTS OF HELIBASE SITE SELECTION

It should be recognized that seldom is the perfect helibase site available. In the site selection process, each of the following elements should be considered. The site that provides the safest, most efficient alternative is selected.

I. LOCATION

A. Proximity to the Incident Site

1. Select site that provides the most efficient flight profile.

2. Elevation in relation to helispots

3. En route time to helispots

4. Ownership

B. Proximity to the Incident Base Camp

1. Transportation of crews

2. Overhead requirements

3. Convenience of supply transport

4. Meals for helibase staff

5. Will the flight routes be too close to camp?

a. Can camp over flights be avoided?
b. Are rest areas away from the noise of flight operations?

C. Proximity to Local Airport and/or Aviation Fuels Source

1. Local airport

a. Flight crew switches
b. Convenience for air support group supervisor

2. Local fuel consignee or jobber

3. Government provided fuel

a. Contracted large capacity fuel transporter
b. National guard or military; transporter

D. Highway or road access

1. Fuel truck access

2. Supply and logistical transport

3. Transportation for flight crews to local accommodations

4. Crew and overhead transportation

II. PHYSICAL REQUIREMENTS (SIZE AND SURFACE)

A. Select a site that meets present and projected needs (expansion).

1. Helibase command center

a. Flight line visible to operation center
b. Helibase communications adequate

2. Helispots with adequate safety circles

3. Cargo areas

    a. Out of approach and departure routes
    b. Contain in-coming and out-going cargo sites
    c. Away from hazards
    d. Must have good vehicle access

4. Crew transport and manifesting area

    a. Capable of handling projected crew movement on schedule
    b. Properly marked
    c. Has crew ready area

5. Designated emergency landing area

6. Vehicle parking area

    a. Crew transports
    b. Helibase and helicopter support vehicles
    c. Area for fuel truck parking

7. Sleeping area for helibase personnel

B. Select a site which has surface type that will:

1. Support the type of aircraft being used

2. Support the fuel trucks

3. Accept dust abatement measures

    a. Pumps, porta-tanks, sprinklers
    b. Large water tender-spray bar application

C. Site selection criteria should include areas that would accommodate special projects.

1. Fireline explosive transport

2. Retardant operations

3. Aerial ignition projects

III. AIRSPACE REQUIREMENTS FOR SAFE FLIGHT OPERATION

A. Traffic Patterns

1. Must not conflict with local non-incident use.

a. If necessary, file 91.137.
b. Inform local users of activity.

2. Establish and post the most safe and efficient traffic patterns.

3. Avoid over flight of developed areas.

B. Flight Hazards

1. Flight obstacles

2. Air traffic

3. Local weather

a. Fog
b. Wind
c. Inversion
d. Smoke

IV. COMMUNICATIONS

A. Radio Communications

1. Ground communications

a. Logistics
b. Line operations
c. Operations section chief
d. Helibase operations

2. Air to ground communications

a. Air attack
b. Flight following
c. Take off and landing controller

3. Air to air communications

a. Air attack to aircraft
b. Position reporting
c. Coordination between aircraft

B. Telephone Communications

1. Inner-incident communication

2. Contractor communication

HELIBASE SITE SELECTION

A helibase is an area established as a base of operations to support either project work or incidents by rotor wing aircraft. The area may need to accommodate no more than a single aircraft, or it may need to be large enough to safely and efficiently handle 12 to 15 helicopters of various types.

The numbers of aircraft based at any helibase are limited only by availability, need, space, complexity of the incident, and by management capabilities. The key to helibase site selection: The area selected must provide adequate space, suitable location, and communications potential to safely and efficiently support the project or incident.

Selecting the site on which to organize a helibase is one of the most difficult of a helibase manager's many duties. Some situations do not provide selection options. In such cases, the organization must be built to fit the helibase site selected. Helicopter support may be limited by the size and capacity of the available facility, thus support options other than the helicopter must be developed.

Normally, a helibase manager has several sites from which to choose. Selection of the correct site is essential to long-term, efficient, safe support operations. Few events are as disruptive or will challenge a helibase manager's skills more than moving the operation while still trying to meet incident support requests.

Four elements must be considered during the site selection process: location, physical requirements, airspace requirements, and communications. All four elements are equally important, and not necessarily listed in order of importance.

Remember to evaluate all elements. Site selection usually involves trade-off and compromise. The perfect helibase site is seldom available. Choose the best site available. The best site is the safest site, and often the safest site is also the most efficient.

LOCATION

Select a site that is efficient in terms of flight time to and from the incident site. A site that is closer to the incident, but several thousand feet lower may not provide the most efficient flight profile. Flight time may be saved by selecting a site that is several miles farther away, but offers a better en route flight profile. Steep assents and descents in heavily loaded helicopters are less efficient than more gradual flight profiles.

Consider ownership in site selection. Ideally, the site selected would belong to the agency or jurisdiction on whose land the incident is occurring. That is not always the case. Helibase site requirements are often best met by lands held in private ownership. If a site in private ownership offers a significant advantage over a site held in public ownership, opt for trying to work out a contract or agreement with the owner. This requires working through the incident procurement unit leader.

Make sure a written agreement is in effect, and the land owner has a clear understanding of what is involved in conducting helibase operations and the impact operations will have on the property. Be sure to inform the incident rehabilitation planning unit of any rehab needs at the helibase site. When public lands are used, take measures to impact the site as little as possible. Involve the host unit resource personnel.

Select a site that is relatively close the Incident Base Camp. Consider the number of crew and line personnel that will need to come through the helibase for transportation. Overhead will be requesting recon flights. Supplies and equipment will need to be transported to and from base camp. Meals will be brought to the helibase for base personnel, or the camp needs to be located near enough for those personnel to go to the kitchen.

Be careful not to locate the helibase too close to the camp. Flying over the camp on approach and departure routes is ill-advised. There will be people trying to sleep in camp. Air traffic noise does not promote rest!

Consider the distance to a source for Jet-A. Fuel truck drivers often have to spend long hours driving to secure fuel after operations have shut down for the night. With the stiffening of DOT regulations, these persons are often in violation of regulations. If a site near a commercial fuel outlet cannot be selected, consider ordering a contract fuel carrier, or utilizing a National Guard or military fueler, work through the procurement unit leader. The air support group supervisor is responsible for determining fuel supply sources, but often an ASGS has not been assigned, or is not yet on scene.

If there is an airport in the area, it is a good idea to visit the site and inform the Fixed Base Operator (FBO) of the situation. A local airport should be considered an asset to the incident. It is a source for fuel, a site to perform repairs and inspections, facilitates flight crew switches, and is a transportation terminal point for crews and overhead. It may be the best option for a helibase site. Determine approach and departure routes used at the airport to see if they conflict with proposed helibase routes. Let the FBO know he can expect some impact on his operation. Again, this is an ASGS responsibility, but may fall to the Helibase Manager.

A helibase must have good highway or road access. All supplies, crews, overhead, equipment, and fuel must arrive at the helibase by ground transport. The better the road system, the more efficient the overall support operation will be. Remember, if Type I and II helicopters are being used, the gross weight of the fuel trucks can be quite high. Good road access contributes to the overall safety of the operation. An important factor to consider is the ground transportation routes available to pilots, fuel truck drivers, and mechanics to local accommodations.

PHYSICAL REQUIREMENTS

Select a site that has adequate room to meet current and projected incident support requirements. Consult the incident commander. Determine what the projected requirements will be. Don't set up in a site that will accommodate three Type III's when projections indicate a larger number of aircraft will be needed to support the suppression effort. Find out how many and what types of aircraft are on order.

Adequate room to establish a helibase command center, helipads for each helicopter, crew manifesting and loading areas, incoming and out going cargo decks, fuel truck and crew transport vehicle parking sites, and areas for helibase personnel to camp must be planned for. Vehicle parking areas must be designated and marked. Unmanaged parking creates congestion and hazards.

When working mixed types of helicopters off the same base, special attention must be given to safety circles and helipad site selections. When possible, keep Type I, II, and III aircraft separated. Remember the rotor wash, noise, and dust generated by each type. The site must be large enough that taxi ways and approach and departure routes provide separation between airborne and parked aircraft.

The command center should be located where the entire flight line is within view, yet be far enough away that noise will not hinder radio communications. Consider a trailer in which to house the operations center. If possible, locate the crew transportation area near the helibase entrance. This will reduce vehicle and foot traffic along the flight line. Locate the cargo areas on the end of the helibase nearest to the incident site. This will reduce external load overflights. Designate an emergency landing area, and establish one helipad to park transient and unassigned helicopters on.

Select a site that has a surface which will support the type of operation you anticipate. Make sure that it is dry and firm. Consider the weight of the support vehicles that follow helicopters. Fuel trucks can be very heavy. Can the ground be treated for dust abatement? Is the owner comfortable with chemical abatement? The ideal dust abatement setup is a live water source for pumps; hoselays, and sprinklers. Porta-Tanks can be used to supply a ready source of water. Though large water tenders with spray bars are an option, often driving over the surface of the helibase creates more problems than are solved.

Operations that involve helitorch, fireline explosive, or helicopter applied retardant support require separate areas of operation. These areas do not have to be set up as another helibase, though that is often the most practical and is usually recommended. If the primary base has adequate space to set up special operations without conflicting with other requirements and present no hazard, it is acceptable to incorporate. Remember, FLE requires special security measures. When such operations are set up, whether on the same site as the main helibase or remote from it, a high degree of coordination between each organization must be established.

AIRSPACE

Select a site which has adequate airspace in which to conduct air support operations. Two factors must be considered: traffic patterns and flight hazards.

Airspace is as important in site selection as ground space. Unless unobstructed airspace safely meets operational requirements is available, the site is not acceptable. Approach and departure routes must be carefully selected. It is illegal to overfly congested areas with external loads (CFR 14, sub-part C, 133.33, d, 2), and is ill-advised to habitually overfly congested areas in normal flight operations. Remember, rotor-wing operations have an effect on the local area; noise and dust are always generated. Consider local conditions and residents.

Check a Sectional to determine if Military Training Routes (MTRs) may conflict with your operations. Check with persons familiar with the area to see if the area you are considering for site selection has local air traffic. How far is the local airport? Consider having a 91.137 (Temporary Flight Restriction) established over the incident area.

Work through local dispatch to establish the restriction, and remember to remove it in a timely manner. If the site is near an airport, consider a visit to the FBO. Establishing a good relationship with this person can be very beneficial. Check with the air support group supervisor; he/she may have already made the visit.

COMMUNICATIONS

All the best developed plans may be inadequate without well established communications. Be proactive in establishing communications. Look ahead and assess what type of communications will be needed to support expected helibase operations. Ensure that communications are maintained between all functions and personnel, for safe and efficient helicopter/helibase communications.

A JUMP-START CHECKLIST FOR HELIBASE MANAGERS

FIND OUT ASAP:

- Numbers, types, and present status of all assigned and on-board aircraft.
- Numbers, types, and estimated time of arrival (ETAs) of aircraft still on order or en route.
- Military aircraft (helicopters) on incident; names and location of their liaison officer.
- Any other restricted use category aircraft assigned; which ones and what restrictions.
- All pilots and aircraft currently carded.
- 9,600 channel radios in aircraft or on order.
- Operating frequencies assigned.
- Discreet VHF frequency requested.
- Back-up air to air and air to ground frequencies assigned and checked.
- VHF and fire net radios at helibase or on order.
- Need for a VHF Aircraft Link Kit.
- Communications problems (radios, operators) on the ground or in aircraft.
- Conflicting frequencies with adjoining fires.
- Qualified personnel on-board or ordered for all base and helispot operations.
- Specialized and support equipment on-board or ordered (helicopter support kit, porta-tanks, generators, AIDS machine, etc.).

- Use agreements completed for incident's use of facilities or private land for helibase, water dip spots, etc.
- Retardant availability – kind, quantity, and where.
- TFR 91.137 (91.91) requested – confirmed.
- Notification of any affected military routes done by dispatcher and/or FAA ATC.
- Phone numbers for: FAA ATC in incident area, airport, tanker bases, district and forest dispatchers.
- Helibase properly located and adequate for expansion if necessary.
- Are CWN helicopters coming with qualified crew modules? Also, with copy of contract?
- Adequate AV-gas, jet fuel, oil, and services available at helibase.
- Unusual flight hazards to aircraft operations in the incident area; don't overlook restricted areas and military low-level training routes.
- Pilots flying time remaining – for today and until mandatory day off.
- When do contract required "days off" occur on all contracted aircraft?
- Are relief pilots provided for?
- Any upcoming inspections requiring shutdown (50 or 100 hour inspections)?
- If so, will backup aircraft be needed?
- What are guarantee, hourly, availability, optional, and extended stand-by rates for all aircraft?
- Where are off-duty base personnel, air attack supervisor, and pilots staying (room and phone numbers)?

- Feeding and sleeping arrangements made for helibase personnel and pilots?
- Is ground transportation available for helibase personnel and pilots?
- Security needs for outlying helispots.
- Are presently assigned resources adequate to meet the tactical action needs?
- Are presently assigned resources adequate to meet the logistical support needs?
- Is extensive crew and supply shuttle by helicopter anticipated?
- If so, are Type II ships available?
- Any trainees assigned to air operations – who and in what capacity?
- Are FS 122, Flight Use Reports or OAS 23, Aircraft Use Report being completed for all contracted aircraft used on incident?

THINGS TO DO:

- Get with air support ASAP for briefing: problems, needs, concerns, and recommended actions.
- Start process of required reports: Air Ops Summary, Daily Flight Operations Log, Pilot Flight and Duty Record, Medevac Plan, Unit Log, etc.
- Brief and de-brief air operations personnel and pilots daily.
- Be prepared to make recommendations to air operations regarding capabilities, time frames for operations, limitations, and safety considerations to meet incident control objectives.
- Check all assigned personnel for medical qualifications (EMT, etc.).

- Order resources needed.

- Recommend release of resources not needed.

- Stay in contact with your people and with the air support.

- Maintain close awareness of operational safety considerations, e.g., if visibility starts to crowd marginal limitations, be ready to shut down.

- Monitor Air Ops radio traffic; enables you to get a feel of how things are going and will give you a jump on anticipating changes and heading off potential problems.

- Plan for clean-up and restoration of helibase and helispots upon termination of use (follow up).

- Overhead performance ratings with personnel.

- Anticipate demobilization. Be ready with priorities for release of personnel and aircraft; names, destinations, transportation needs, destinations of your aircraft, and is room available to take other release incident personnel. Coordinate <u>early</u> with plans and demob.

- On release, call in through the incident dispatch: Names, A/C identification, passenger manifests, flight plan with stops, final destination, ETDs, ETAs, get confirmation. Instruct pilot and/or chief of party to call in at each stop with ATA, ETD, and ETA to next stop.

<u>THINGS NOT TO DO:</u>

- Don't let yourself get tied up with the nuts and bolts of the jobs of others – you are a MANAGER. If <u>you</u> have to do <u>their</u> job, you aren't doing <u>yours</u> – replace them!

- Don't let yourself become isolated and out-of-communication. Things happen fast and decisions <u>will</u> be made, with or without you.

THINGS TO REMEMBER:

- Air Ops are not particularly noted for their placid dispositions, endless patience, or sympathetic understanding. It is rumored that they come from an alien life form.

- Despite that, you need to have a hand in and insist that the air operations should be run the way you know it must be run.

- Do not allow the "urgency" (real or created) of any situation crowd you into taking any short cuts.

- Your job is to manage the helibase operations so as to support the incident's control objectives but, NEVER AT THE PRICE OF AN UNSAFE OPERATION!!

TO RUN A GOOD OPERATION:

- Know your job. Anticipate. Stay ahead. Order early. Stay informed. Keep your people informed. Resolve problems ASAP.

- Don't be bashful. Anticipate timely resources release. Be positive. Expect the unexpected and be ready to do it all over again tomorrow!!

MOST IMPORTANTLY - EVERY INCIDENT IS DIFFERENT – AS SITUATIONS CHANGE, PROBLEMS AND SOLUTIONS MAY ALSO CHANGE. NOTE ANY ADDITIONAL OR NEW CHECKLIST ITEMS AND PASS THEM ON. NOBODY HAS ALL THE ANSWERS!!

Helibase Manager, S-371

Unit 5 – Risk Management and Safety

OBJECTIVES:

Upon completion of this unit, students will be able to:

1. Define risk management as it applies to helibase operations.

2. Given a situation, apply established safety procedures and/or risk management methods to ensure safe helibase operations.

I. DEFINE SAFETY AND RISK MANAGEMENT

A. Safety is an attitude.

Safety is an attitude based upon an awareness of interagency aviation policy and procedures which have been derived from accumulated experiences, both successes and failures.

Any mission can be accomplished safely provided the appropriate procedures are followed.

B. Risk Management is a process.

Risk Management is part of the aviation safety program, and provides managers with the tools and techniques to identify and mitigate risks involved in any mission or operation.

By focusing on risk reduction, decisions can be made to utilize specific procedures which will improve the overall safety of the operation.

By adhering to sound safety practices and utilizing risk management techniques, a safer operational environment can be achieved on the helibase.

II. IMPLEMENTATION OF RISK MANAGEMENT

A. Awareness

Raise the level of awareness for risk management for all helibase personnel through briefings, training, and publications.

B. Responsibility

- Overall risk management responsibilities for the helibase belong to the Helibase Manager.
- Everyone is ultimately responsible for risk management practices.
- The Helibase Manager must recognize when these responsibilities are beyond their capabilities and elevate them to a higher level.

C. Methods for Risk Management

Five steps:

1. Identify hazards
2. Assess the hazards

   Assessment is determining the cumulative effects of the mission, and will help determine the probability of the event occurring.

3. Make a Go-No-Go decision

4. Implement the controls

5. Supervise

These five steps concentrate on identification and mitigation of typical aviation hazards.

III. IDENTIFYING INHERENT HAZARDS

Inherent risks are associated with any helibase operation regardless of location, due to the basic nature of flight and the aviation environment.

A. Three Categories of Inherent Hazards

The hazards inherent on the helibase can be divided into three categories: Environmental, Human, and Mechanical

1. Environmental hazards

- Wires, obstacles
- Winds
- High elevations/hot temperatures
- Confined landing areas
- Airspace congestion
- Reduced visibility
- Dusty helibase/helispots
- MTR's
- MOA's/SUA's
- Poor radio communications

2. Human hazards

- Deficient experience/skill levels
- Fatigue/stress
- Urgency of situation
- Poor crew cohesion
- Ego
- Attitude (pilots and personnel)

3. Mechanical hazards

- Fuel
- Maintenance deficiencies
- Component failure
- Security problems

B. Sources of Information for Hazard Identification

- Local knowledge
- Maps
- Pilots/flight crews
- Helibase/helispot personnel
- Incident personnel
- Your eyes/ears

C. Methods for Gathering Hazard Information

The task of gathering all the information needed to manage helibase operations is not practical for the helibase manager to accomplish alone.

- Establish a method for gathering of hazard information.

- Maintain the flow of information through the duration of the incident activities.

D. Information Management

- Delegate – you can do only so much.
- Elevate – when the situation is beyond your experience seek help.
- Monitor – risk management is a continuous process.

EXERCISE: Hazard Identification-IAP

Review the Day 4 IAP and answer the following questions:

1. What sections of the IAP may contain information about known hazards, or may point to potential hazards?

2. What hazards did you identify from the IAP?

3. Were there any indications of potential hazards that you would investigate?

IV. MITIGATING SPECIFIC HAZARDS

A. Environmental Factors

1. Wires, obstacles

- Mapping
- Marking
- Panels on ground
- Briefings
- Orientation flights
- Removal of hazard
- Relocation of helispots or work sites
- Altering flight routes

2. Winds

- Wind indicators
- Marshallers
- Defined approach/departure patterns
- Feedback on changing conditions
- Alternate sites/contingency planning

3. High density altitudes

   - Proper helispot selection/construction
   - Appropriate aircraft for mission
   - Load calculations correct
   - Additional downloading
   - Planning to utilize the coolest time of day

4. Confined landing areas

   - Aircraft selection for mission
   - Site selection
   - Make improvements
   - Avoid regular use of full power take-off/landing areas

5. Congested airspace

   - Adequate helibase layout/traffic patterns
   - TOLC qualified and functional at current complexity level?
   - Flight following procedures established?
   - Consider request for portable FAA tower
   - Establish flight routes/check-in points
   - Horizontal and vertical separation (fire traffic area)

- Consider using a geographic feature or barrier to separate inbound and outbound flights
- Adequate communications/frequencies
- Backup communications plan (guard frequency).
- Coordinate with air attack and helicopter coordinator

6. TFR's (Temporary Flight Restrictions)

   Check status with AOBD or ASGS. If neither is available, coordinate with local dispatch. Information they will need:

   - Location of TFR - Lat/Long
   - Incident elevation
   - Standard TFR dimensions are 3000' AGL and a 5 nautical mile radius.
   - Adjust size and altitude to fit incident conditions.

7. Visibility

   - Landing lights on
   - Planning for inversion conditions
   - Increase position reporting by pilots to other pilots
   - Limit number of aircraft operating in specific areas
   - Shutdown time earlier than required
   - Helicopter coordinator for logistical mission traffic control

8. Dusty conditions

- Site selection
- Dust abatement
- Pumps/hose lays
- Sprinkler systems
- Bucket drops
- Water tenders

B. Human Factors

1. Experience/skills

- Evaluate personnel skills.
- Assign experienced personnel to specific positions based on incident complexity.
- Provide training opportunities for all personnel.
- Monitor pilot proficiency and flight skills.
- Do not make mission assignments which are beyond a pilot's skill level.
- Order additional personnel for specialized assignments.

2. Fatigue/stress

- Monitor physical and emotional condition of personnel and pilots.
- Provide adequate facilities for pilot and crew comfort.
- Rotate personnel assignments for “change of scenery” and training opportunities.
- Provide variety in mission assignments for pilots to avoid long periods of repetitive flight or difficult missions.
- Ensure that adequate breaks from activity are taken.
- Limit flight hours if necessary.
- Ensure that R&R guidelines are followed, but give days off if needed sooner than scheduled.
- Take care of yourself; you need to set the example on the helibase.

3. Urgency of mission

- Lead by example; establish methodical procedures for mission assignment/accomplishment.
- Have all emergency procedures established, known, and ready for implementation.
- Ensure that all personnel know their individual assignments, as well as the operational objectives for the period, and the overall incident objectives.

4. Human relations

   - Create an environment in which all personnel can work together as a team.

   - Address EEO policy, and monitor the working environment.

   - Make yourself accessible to all personnel; solicit feedback on how the operation is going.

   - Investigate all problems or complaints, no matter how minor.

   - A serious safety issue may come to your attention.

   - Do not allow crew rivalries or personal conflicts to continue once identified.

5. Ego

6. Attitude

C. Considerations for Mechanical Factors

1. Facilities for cleaning and maintenance.

   - Lighting for mechanics
   - Adequate water for daily cleaning

2. Allow helicopter managers opportunity to utilize contracts to resolve problems.

   - Encourage them to contact contracting officer/contracting officer representative (CO/COR) and agency technical specialists.
   - Insist on feedback/resolution once a problem is identified.
   - Monitor

3. Elevate to a higher organizational level those maintenance items that are beyond your responsibility.

   - Maintenance inspectors
   - Consider aviation safety teams

EXERCISE: Human Factors Mitigation Methods

Refer to the exercise on pages 5.31 – 5.33.

EXERCISE: Problem Solving

Refer to the exercise on page 5.35.

V. RISK MANAGEMENT AND SAFETY TIPS

Consider the following example from the television show Hill Street Blues:

At the briefing every morning, the Staff Sergeant told all the officers to be careful. Did he need to say that? Yes! Remember, let's be careful out there.

The helibase manager's job is to see the big picture for safety.

- Be a leader and lead by example.
- If you don't wear the proper PPE, they won't.
- Empower all personnel, pilots, and contractors to continually improve the safety of the operation.
- Continually solicit feedback.
- Safety problems should be corrected immediately as they occur.
- If needed, operations can be shut down until safety issues are addressed.
- Create an environment which provides continual feedback from all personnel.
- Utilize regularly scheduled briefings and debriefings.
- Encourage internal briefings by all functions of the helibase operation.
- Emphasize that all incidents needed to be reported so that safety issues can be addressed. If necessary fill out a Safecom and submit.

EXERCISE: Unit Log

Complete an ICS 214 for Day 4 and hand it in to your coach/mentor.

RISK MANAGEMENT

Risk management is a tool that helps leaders make sound decisions in a logical manner. Used in a positive command climate, risk management can become a mind set that governs all unit missions and activities. Risk management enables leaders at all levels to do exactly what the term implies: manage risks.

The term is best applied generically, as leaders are confronted with a variety of risks: training risks, fiscal risks, and safety risks. Safety risk management, however, is a specific type of risk management. This article is directed toward safety risk management and how it fits into the leader's tool bag.

But before commanders can effectively use risk management as an accident-prevention tool, they must remember to:

* Integrate risk management into planning
* *Accept no unnecessary risk*
* Make risk decisions at the proper level
* Accept the risk if benefits outweigh the cost

Risk management in theory

Risk management is a five-step cyclic process that is easily integrated into the decision-making process. This decision-making process is ingrained into incident team leaders and readily lends itself to safety risk management, so rather than advocate safety risk management as a separate consideration, let's put it into a process that leaders understand.

Risk management vs. risk assessment

A risk assessment is a part of risk management. It can range from simple to complex. A risk assessment causes leaders to identify hazards and threats and place them in perspective relative to the mission or task at hand. Logically, one cannot identify the risk without first determining what the hazards are.

Risk management applied

The first step in risk management is to ***identify hazards***. The hazards are the potential sources of danger that could be encountered while performing a task or mission. For example, a unit is given a mission to transport passengers late at night across several states with heavy snowstorms forecast. Factors that determine hazards are weather, time of flight, terrain, equipment, and training of personnel. There could be other less obvious hazards that would become apparent during planning. Leaders should seek to identify all these hazards before the operation.

The second step is to ***assess the hazards*** to determine their cumulative effect on the mission or objective. Each of the hazards is analyzed to determine the probability of its causing a problem and the effect (severity) of the consequences should such a problem occur. Exercising judgment on how to eliminate or reduce hazards to lessen the overall risk is inherent in the risk assessment process. Additionally, the assessment of hazards should include those associated with <u>not</u> performing the flight mission.

Assessing individual hazards. Each identified hazard must be correctly assessed to determine its individual and cumulative effect on the mission. The risk assessment matrix is a tool to help flight crews, management, and operations supervisors analyze individual hazards to determine the probability (how likely is the hazard to cause an accident?) and the effect of the consequence is (how severe will the accident be?) should a problem occur.

Assessing cumulative risk. To assess the cumulative risk of mission hazards, units may develop a numerical risk-assessment worksheet appropriate for their operations, and/or generate an overall risk assessment using the matrix based on the identification and assessment of individual hazards.

However, if not properly used, the mission risk assessment can become a risk in itself if it established numerical values *too low* for the hazards identified. Conversely, the assignment of probability values that are *too high* may result in an over-cautious approach that ignores risk mitigation measures that have or will be taken.

To ensure the validity of the numerical values used in the mission risk assessment, units should ensure that the values yield a risk level commensurate with the complexity of the mission. First assess the risks both individually and cumulatively *without* mitigation measures, and then repeat the process for both individual and cumulative risks with mitigation measures either planned or in place.

The third step is to **make a risk decision**. Leaders are expected to weigh the risk against the benefits of performing an operation; however, the mentality is more often "mission-first."

During the initial assessment (that is, prior to taking Step #4, Implementing Controls), some mission hazards may fall into the high-risk category. When one or a combination of these hazards falls into either of these categories, the overall initial mission risk assessment should fall into either one of these levels, *regardless* of the total cumulative numerical value obtained on the mission risk-assessment worksheet. The mission should then be elevated to the proper command level for review, recommendation of controls (see #4 below), and approval/disapproval.

Additionally, each hazard assessed could be classified as a low risk. However, the cumulative effect of all these low-risk hazards can significantly increase the overall (cumulative) mission risk.

Decisions become more obvious if the hard questions are asked first. Will the benefits to be gained from doing the mission outweigh the potential costs? Is there any single identified hazard that could of itself cause this mission to be a higher risk than is reflected on the risk assessment?

Appropriate levels for making a risk decision.

Risk decisions should be made at a level of command that corresponds to the degree of risk. As such, guidance should be established as to who makes which risk decisions.

Too often, the risk-assessment decision is made at too low a level of command, either by design (that is, the risk assessment assigned purposely falls into the low or medium level) or by lower-level personnel making high-risk decisions independently. The effect is that the risk decision is not elevated to high-level commanders when their experience and command influence in lowering risks are most needed.

In cases where crews are performing risk assessments without the benefit of the chain of command's input, leaders are kept from fulfilling their leadership responsibilities. Risk management starts at the mission planning stages, not after the decision cycle has been completed. A poorly-assessed mission may yield a low risk value, thereby placing risk acceptance decisions at an inappropriate level.

Getting the chain of command involved in the entire risk management process — from identifying and assessing hazards to developing proper control measures and supervisory procedures to mitigate or diminish the effect of those hazards on unit operations — enhances the chances of accomplishing the mission safely.

Accidents highlight some common mission aspects that commanders should review as especially hazardous and deserving a higher risk value: crew experience, weather, mission complexity, and/or combinations of these. Commanders should train subordinate leaders to recognize hazardous situations and to elevate approval to the proper command level when one or a combination of these hazards exists.

The fourth step is to ***implement the controls*** established as a result of steps one through three. Included in this step is leader action to reduce or eliminate hazards, regardless of the risk level. Controls may be as substantial as writing a Standard Operating Procedure (SOP) or as simple as conducting a short safety briefing. If the risks cannot be eliminated, then we must look for ways to control them.

Remember, that once controls have been planned or implemented, an adjusted risk assessment should be performed using Steps 1 through 3. The purpose of this reassessment is to ensure the mission still falls within acceptable limits, or that unacceptable risks have been mitigated such that the mission can proceed.

In any mission scenario, the leader would provide the crew a mission briefing on the specifics of what he or she has decided. The leader would then require a brief back from the crew to ensure that all is understood.

Controls should be in place to ensure crews have a clear understanding of when the situation requires reassessment during mission execution. When new hazards arise or the risks of previously identified hazards increase, then pilots-in-command and air mission commanders need to reevaluate the cumulative risks and make new risk decisions. Many times that may mean aborting the mission until situations change or conditions improve.

The fifth step is to ***supervise***. However, supervision in this sense goes beyond ensuring that people do what is expected of them. It includes following up during and after an action to ensure that all went according to plan, reevaluating the plan or making adjustments as required to accommodate unforeseen issues or situations, and incorporating lessons learned for future use.

Risk assessment in field situations

Performing risk assessments in the field is limited by the amount of time available for planning and requires flexibility and judgment by leaders. Such risk assessments can be divided into three major categories:

Hasty risk assessment is required when planning time is minimal. (In this context, note that "hasty" is not to be considered synonymous with "inadequate.") For example, while in flight an aviator encounters an unexpected thunderstorm. Planning time and reaction time are minimal. The pilot must quickly assess the risk and determine whether to land, attempt to fly over or around the weather cell, or abort the mission and return home to base.

Another example would be an air tanker pilot who experiences an engine failure on takeoff with a full retardant load. The decision as to whether to release the load must be made immediately. Time often does not allow extensive hazard identification and analysis. In these cases, do as much of the process as time will permit. Even a hasty risk assessment is better than just reacting. The secret lies in our ability to fully integrate risk management into our basic decision-making process.

Deliberate risk assessment is used when planning time permits. It involves systematic risk identification, evaluation, consideration of control options and risk decision making, implementation of controls, and supervision. For example, when a commander receives notice of a support mission 3 days in advance, there is ample time to identify and evaluate the hazards, develop and implement controls, and supervise preparations for the mission.

In-depth risk assessment should be used when risks appear high and time and resources allow thorough risk assessment. Risk assessment at this level requires more sophisticated techniques and professional reviews. An in-depth risk assessment is necessary when a unit is to utilize a new type of aircraft or initiate a new program (for example, rappelling).

Risk Assessment Matrix

			HAZARD PROBABILITY				
			Frequent	Likely	Occasional	Seldom	Unlikely
			A	**B**	**C**	**D**	**E**
EFFECT	Catastrophic	**I**	EXTREMELY				MEDIUM
	Critical	**II**	HIGH	HIGH		MEDIUM	
	Moderate	**III**	HIGH	MEDIUM		LOW	
	Negligible	**IV**	MEDIUM				

Effect: If the hazard is encountered during a flight mission or aviation operation, the effect may be:

Catastrophic: Death or serious injury; system/equipment loss (aircraft or ground accident).

Critical: Serious injury; damage to equipment.

Moderate: Mission can be accomplished, though there may be adverse effects on mission efficiency (extra cost, delays, etc.).

Negligible: No effect on mission accomplishment.

Probability: The probability of encountering the hazard during the flight mission or operation may be:

Frequent: May be continuously or often encountered during each mission.

Likely: May be encountered several times during the course of many missions.

Occasional: May be encountered sporadically during the course of many missions.

Seldom: May be encountered infrequently, but chances are remote.

Unlikely: May be encountered only rarely; chances are possible, but improbable.

FIVE HAZARDOUS ATTITUDES

Flight Out of Balance

by Seth B. Cooley

Most pilots would agree that the single most important element in assuring the safety of a flight is the exercise of sound judgment, or good old-fashioned "common sense." In the January issue of *AOPA Pilot* (p. 71), Editor Richard Collins discussed six qualities that can be associated with pilots who we consider to exercise good judgment: patience, intuition, organization, cool (sic), decisiveness, and coordination.

Clearly, judgment is the product of a combination - a balance - of factors that includes a pilot's basic stick-and-rudder skills; his knowledge of aircraft, route, and weather; experience; training; personality; and attitude. But these factors can just as easily combine in an exercise of poor judgment as they can in good judgment. The challenge facing researchers seeking to formalize judgment training is to find ways to reinforce good decision-making processes and to discourage bad ones.

The personality factor is a particularly tough nut to crack because personality traits are deeply rooted behavioral characteristics that are usually established in childhood and are highly resistant to change. Attitudes, on the other hand, are not innate; they are learned responses to various types of situations. Attitudes can be influenced and changed (this is the stock-in-trade of advertising agencies, politicians, and theologians, among others).

In aviation, a pilot's attitude toward safety in general, toward himself, and toward the very act of flying can greatly influence his judgment. If common sense were really so common, fewer accidents attributed to "pilot error" would occur. Researchers, therefore, have sought to formalize the difference between good attitudes and bad attitudes. They have come up with five "hazardous" attitudes that may exist in varying degrees in any pilot in any given situation. By recognizing the onset of hazardous attitudes in ourselves and understanding the antidotes to them, we can change our decision-making habits for the better.

1. Anti-Authority

The anti-authority attitude is found in pilots who dislike being told what to do, who resent external control over their actions. “Don’t tell me!” is their unspoken response to what they consider to be a challenge to their command prerogatives. These pilots often disregard rules, regulations, and procedures they feel are silly or unnecessary; they feel the rules were written for “the other guy.”

Nobody enjoys feeling like (sic) he is being pushed around. Moreover, the pilot has responsibility for, and is the final authority as to, what is appropriate for the safety of his flight. The pilot has the prerogative to question authority when he feels it to be in error. Under Federal Aviation Regulation 91.3, in an emergency the pilot may deviate from any rule or regulation to the extent necessary to meet that emergency. Be that as it may, when a pilot deliberately flouts the rules, he has stepped over the line into a hazardous attitude.

The antidote: When you find yourself flirting with the anti-authority hazardous attitude, think “Follow the rules. They are usually right.”

2. Impulsivity

Some pilots feel the need to do something - anything - immediately when confronted with a choice of action. “I must act now - there’s no time,” they say to themselves. What makes this attitude hazardous is that these pilots usually do the first thing that enters their heads; in other words, they don’t think. They don’t take time to select the best alternative.

Decisiveness is a positive attitude in a pilot, but making a decision in the absence of facts is a dangerous habit. “Plan your flight, then fly your plan” the military teaches its pilots. To fly safely, we must always have alternative courses of action in mind should something go wrong right now. (Sometimes this is mandated, as in alternate airport requirements under instrument flight rules.) Among other benefits, this reduces overall pilot workload.

Regardless of the swiftness of the onset of an unusual situation, it behooves the smart pilot to take a moment to analyze the situation, carefully consider his alternatives, and then make a decision based on the best possible course of action under the circumstances. It needn't take more than a moment if the pilot has the right decision-making attitude.

Antidote: When tempted to respond without thinking through a problem, remember "Not so fast. Think first."

3. Invulnerability

Despite the evidence supplied by such columns as "Never Again" that bad things can happen to anyone, some pilots defy logic and the laws of probability with an attitude of invulnerability. "It can't happen to me," they think, as they read of another gear-up landing or dual electric/vacuum failure in instrument meteorological conditions. They know accidents happen, they know anyone can be affected - they just don't believe it will ever happen to them personally.

The evidence of our senses should be enough. Anyone who has amassed sufficient experience in the cockpit will have had some untoward event occur at some time in his flying career. The alternative attitude - that something is likely to go wrong on each and every flight - is equally wrongheaded but overall a safer basis for decision-making. We are taught even in drivers' education courses to anticipate the unexpected. If nothing happens on a particular flight, fine, but anticipation of potential trouble is the first step toward dealing with it when (not if) it eventually happens.

Antidote: If you ever find yourself feeling that you fly under a lucky star, say to yourself, "It *could* happen to me."

4. "Macho"

A pilot we know - a mild-mannered, soft-spoken chap - started a takeoff into a strong crosswind recently, and finding that he could not keep the airplane tracking down the centerline, he thought about aborting. Realizing that friends were watching from the ramp, however, he continued the takeoff. As he drifted toward the runway edge lights with about two feet of altitude, he realized that he had fallen victim to the most perfidious of the hazardous attitudes, "macho." "I'll show them," he was unconsciously thinking. "I can do it."

The “macho” bug can bite the shy and retiring. It bites women with great regularity, as well, particularly women who feel they are somehow in competition with male pilots. But “macho” reaches its nastiest manifestations in pilots who, for whatever psychological reasons, are always trying to prove they are better than anyone else. They prove this to themselves by taking risks and trying to impress others. Beware of overconfidence.

Aviation’s fascination with having “the right stuff” unconsciously reinforces this most dangerous of attitudes. Recent popular books, films, and television programs imply that pilots who don’t take risks, who are afraid of facing a little danger, don’t have the moral fiber required of a “real” pilot. Having had the right stuff is of little consolation to the widow(er) and orphans of the pilot who had it.

In fact, the researchers’ choice of the word *macho* is probably ill-taken. Macho means nothing more than strong, manly. Though feminists may argue that this in itself is an undesirable attribute, the dictionary would disagree. Rather, the negative response we are supposed to have to the word is based on its misuse (probably in place of the word *machismo*, which is derived from macho but implies male domination) in popular culture over the last decade or two. A more appropriate word is *hubris*, meaning excessive pride self confidence, arrogance.

Competitiveness is a characteristic of modern society, and most of us probably fall prey to it on occasion. Competition has its place in aviation, but that place is not the day-to-day flying activities of the majority of general aviation.

Antidote: Be on guard for the hubris monster, for it is the most insidious of beasts. There’s nothing wimpy about saying, “Taking chances is foolish.” Just ask your kids.

5. Resignation

The flip side of the invulnerability coin is the attitude of resignation. “What’s the use?” say pilots who feel they have little control over what happens to them. They do not see themselves as players in their own lives’ dramas. They feel that circumstances are governed by luck, and they leave action to others, allowing other people or commitments to influence their decisions. They are resigned to leaving things as they are, and they may deny that a situation is as critical as it appears.

But listen to William Ernest Henley: "It matters not how strait the gate, how charged with punishments the scroll; I am the master of my fate, the captain of my soul." Henley was not a resigned man. Above all, "the pilot in command of an aircraft is directly responsible for, and is the final authority as to, the operation of the aircraft." (FAR 91.3[a]). No controller, no instructor, no set of rules or procedures can help you unless you are firmly, and comfortably, in command of your flight. It's your ship; you are the captain, and you are the master of your fate.

Antidote: When things look bleak, tell yourself "I'm not helpless. I *can* make a difference."

Become alert to hazardous attitudes creeping into your flight activities. Sensitizing yourself to them is the first important step in eliminating them. By telling yourself something different from what the attitude would have you believe, by taking an "antidote," you can improve the way you react to adverse situations.

When seated comfortably reading a magazine by the fire, it is easy to deny the influence of hazardous attitudes. To discover the extent these attitudes may influence your flying, you may want to take an attitude inventory. The AOPA Air Safety Foundation has prepared a series of manuals for use in aeronautical decision-making courses. Manuals have been developed for student and private pilots, instructors, instrument pilots, commercial pilots, and those pilots operating multicrew aircraft. Each contains an attitude inventory that allows a pilot to score himself on the presence of hazardous attitudes in his decision-making processes. For more information on the aeronautical decision-making manuals, contact Richard D. Glass at AOPA ASF, 421 Aviation Way, Frederick, Maryland 21701; telephone 301/695-2196.

Most hazardous attitudes are based on normally positive attributes. They become hazardous when carried to an extreme, when they replace thought and analysis with rote responses, when the balance required by the decision-making process is lost. But they can be changed, and recognition is the first step toward turning a hazardous attitude back into a positive attitude and making common sense a little more common.

EXERCISE: Human Factors Mitigation Methods

This exercise consists of six scenarios and three questions. The same questions apply to each scenario. Complete each scenario in sequence. Be prepared to present your answers to the class.

Scenario #1: When you arrive at the helibase, there are several Type 2 helicopters hauling cargo out on longlines. You notice that one pilot is having problems hovering and picking up the load cleanly.

1. What existing or potential safety problems are indicated in this scenario?

2. List several factors which may have contributed to this situation.

3. As helibase manager, how would you deal with this situation to reduce the risk and improve the overall safety of the operation?

Scenario #2: You deliver a message to your deck coordinator to call home as soon as possible. He seems upset after the call and you ask if there is anything you can do. He says he'll manage. Later you notice he is wandering on the helibase and doesn't seem to be able to concentrate on the job.

1. What existing or potential safety problems are indicated in this scenario?

2. List several factors which may have contributed to this situation.

3. As helibase manager, how would you deal with this situation to reduce the risk and improve the overall safety of the operation?

Scenario #3: The helitack assigned to cargo were very busy for the first week of the incident, but lately things have slowed down. They have started taking turns at batting practice with a "tape-ball" they made. This has caught the attention of several of the parking tenders, who have started to make their own "equipment."

1. What existing or potential safety problems are indicated in this scenario?

2. List several factors which may have contributed to this situation.

3. As helibase manager, how would you deal with this situation to reduce the risk and improve the overall safety of the operation?

Scenario #4: A 206 B-III pilot approaches you and says that he is tired flying in circles all day on recon missions. The operations section chief has been using this aircraft extensively and has specifically requested this pilot because he knew him from a previous exclusive use contract.

1. What existing or potential safety problems are indicated in this scenario?

2. List several factors which may have contributed to this situation.

3. As helibase manager, how would you deal with this situation to reduce the risk and improve the overall safety of the operation?

Scenario #5: You are awakened late at night by loud voices and music. At the far end of the helibase sleeping area, helitack personnel from several crews and two pilots are partying. They offer you a beer as you walk up.

1. What existing or potential safety problems are indicated in this scenario?

2. List several factors which may have contributed to this situation.

3. As helibase manager, how would you deal with this situation to reduce the risk and improve the overall safety of the operation?

Scenario #6: There is a heated discussion going on at the pilot's lounge area concerning the "stupidity" of yesterday's aerial ignition operation which escaped and tripled the size of the incident. One pilot is extremely irate at the operations section chief and a helitack crew member comments, "this team is useless, you should have seen them at the "Fiasco incident" back in June ..."

1. What existing or potential safety problems are indicated in this scenario?

2. List several factors which may have contributed to this situation.

3. As helibase manager, how would you deal with this situation to reduce the risk and improve the overall safety of the operation?

EXERCISE: Problem Solving

The incidents in this exercise were actual events. List factors or events that may have contributed to these incidents occurring. Groups should also develop a solution for their incident and present it to the class.

Incident #1: For the third time today, involving different helicopters, loose trash and paper sleeping bags have been blown around during approach to several different helispots.

Incident #2: A pilot doing bucket work with a longline came in and fueled, then was given a mission to transport helitack to construct a helispot. On take-off, he had forgotten to disconnect the bucket and punched it off as he cleared trees at the end of the helibase.

Incident #3: A Bell 206 B-III pilot has returned and is very angry about the helitack at H-3 who had forgotten to check the cargo compartment during the last crew shuttle. The unremoved cargo created a serious near crash weight and balance problem for the pilot on takeoff, and he had to return to the helispot to be unloaded.

Helibase Manager, S-371

Unit 6 – Planning

OBJECTIVES:

Upon completion of this unit, students will be able to:

1. Identify the planning and coordination required of the helibase manager to meet the needs of a changing incident.

2. Identify the tools a helibase manager utilizes in the planning process.

3. Develop a plan and order resources necessary to accomplish the objectives in the air operations section of the incident action plan.

I. COORDINATION

A. Two Main Areas of Coordination

What are the two areas the helibase manager must coordinate with?

- Within the helibase
- Other incident functions

B. Coordination with Other Incident Functions

What incident functions should the helibase manager coordinate with?

- Planning Section – To ensure that plans are developed based on realistic capabilities. Also to determine how demobilization will impact your operation.
- Situation Unit – To ensure that the location and numbering of all helispots is well coordinated.
- Resources Unit – To ensure that helibase resource listings are current. Determine if the resources unit wants the helibase to maintain a Check-in List, ICS 211, and when they want it.
- Logistics Section – To ensure that services meet your escalating needs. This would include food, supplies, garbage removal, ground transportation, and medical support.
- Air Operations Branch Director – To ensure that the overall actions of the helibase are understood and that problems are quickly identified and resolved.

C. Importance of Coordination

Why is it important for the helibase manager to coordinate with other incident functions?

- Considerations for demobilization planning should start at the beginning of the incident.
- In order to provide an efficient and seamless operation.
- In order to have input into the following day's mission plans.
- To ensure the IAP contains no missions that would be considered unreasonable, unsafe, or unattainable.
- To be proactive versus reactive.
- To ensure that you understand mission priorities and objectives.
- To provide "no surprise" helibase management.

  For example, ensure overhead team is well aware of planned maintenance and aircraft limitations or considerations that will affect their planned operations.

EXERCISE: Helibase Coordination

Refer to the exercise on page 6.9.

II. PLANNING TOOLS

In order to complete mission planning, a helibase manager must understand the resources on site, their capability, and their limitations.

Various forms have been developed to assist in tracking this information.

- HCM forms pertain to individual helicopters and are usually completed by the helicopter managers.

- HBM forms are summary forms that pertain to multiple aircraft.

Appendix A and Appendix B of the IHOG explains how the HCM and HBM forms are used. Blank copies of the forms are located in the index of the IHOG.

A. What information can the helibase manager obtain from each helicopter manager to aid in planning?

   - Helicopter Information Sheet (HCM 6)

   - Helicopter Crew Information Sheet (HCM 7)

   - Single Helicopter Load Capability Planning Summary - Multiple Helispots and Fuel Loads (HCM 11)

B. Where does the helibase manager record information necessary for the planning process?

- Helibase Aircraft Information Summary (HBM 3)
- Load Capability Planning Summary - By Multiple Helispots (HBM 4)
- Resource Planning Capability Chart (HBM 6)

There are many forms available you will need to use based on your knowledge and incident complexity.

Many of the HBM/HCM forms record similar information (HBM 2, HBM 4, HBM 6). Use what you are comfortable with.

EXERCISE: Crew Information and Capability

Refer to the exercise on page 6.11.

C. What other sources of information are available to aid in the planning process?

- ICS 220, Air Operations Summary
- ICS 202, Incident Objectives
- ICS 204, Division Assignment List

D. What methods can the helibase manager use to ensure they have the correct information?

- Be proactive in gathering information.

  Attempt to plan ahead for major resource status changes 72+ hours (for example, the release of aircraft or duty limitations of pilots or aircraft).

- Delegate daily responsibilities for gathering and documenting information.

EXERCISE: Planning

Refer to the exercise on page 6.33.

III. PLANNING TIPS

- Assign a person to update the display board daily to maintain the most current information.

- Ensure daily that all helitack are briefed and able to work with any aircraft on the base.

- Ensure vertical separation between aircraft with crossing flight paths is maintained to ensure safety.

- Try not to deadhead an aircraft, if there's something to be hauled.

- Identify mission requests that are unreasonable at the earliest possible stage.

- Identify missions that may have been overlooked in the ICS 220.

- All helitack personnel going to helispots should be prepared to remain overnight due to an unplanned change of events.

- Coordinate with planning to ensure that supplies are staged (specifically MREs, water, and sleeping bags) at the helibase or helispots where personnel might get stranded.

- A good helicopter manager will have completed HCM forms ready to hand to the helibase manager.

EXERCISE: Unit Log/Cost Summary

Refer to the completed helicopter daily use and cost summary forms (pages 6.35 – 6.39).

Based on the information provided in the helicopter daily use and cost summary forms, complete a:

- Daily use and cost summary for Day 5 (page 6.40)

- Unit Log for Day 5

EXERCISE: Helibase Coordination

Based on the hypothetical situations below, list the tasks you must accomplish to ensure a smooth operation and which helibase function would help coordinate the tasks. This will include inter-helibase coordination. The hypothetical situations do not relate to the current IAP.

Hypothetical situation #1:
You are to add three aircraft and modules to your helibase tomorrow. On a flip chart, list what tasks you must accomplish to ensure a smooth operation and which helibase function would help coordinate the tasks.

Hypothetical situation #2:
The new resources have arrived. Who should you coordinate with or notify?

EXERCISE: Crew Information and Capability

The forms for this exercise are on pages 6.13 – 6.31. The completed forms will be used in the next exercise.

Instructions:

1. Review the following completed forms:

    - Helicopter information sheets, HCM 6
    - Helicopter crew information sheets, HCM 7
    - Single helicopter load capability planning summary - multiple helispots and fuel loads, HCM 11
    - Resource planning capability chart, HBM 6

2. Summarize the above information on the following forms:

    - Helibase aircraft information summary, HBM 3
    - Helispot information summary, HBM 2

3. Put the information above on the helibase planning chart (example: helispot info, A/C info, etc.).

DATE: —/—/—

HELICOPTER INFORMATION SHEET

(SUBMIT TO HELIBASE MANAGER IMMEDIATELY UPON ARRIVAL)

MAKE AND MODEL: N Bell UH-B1 88976

A/C INC/PROJ ORDER NO: REQUEST NO: A-

CHECK ONE:	CHECK ONE:	COLOR OF AIRCRAFT:
O EXCLUSIVE-USE CONTRACT X CALL-WHEN-NEEDED O AGENCY-OWNED O OTHER (EG, Military):	O TYPE 1 HELICOPTER X TYPE 2 HELICOPTER O TYPE 3 HELICOPTER LIMITED (RESTRICTED)? O YES X NO	Yellow/Brown PASSENGER SEATS: 0

AGENCY AND HOME UNIT: BLM Wyoming	PHONE: ( )
COAR/COR NAME: J. Freeland	PHONE: (703) 555-3131
CONTRACTING OFFICER NAME: Bob Carr	PHONE: (208) 387-5762
COMPANY NAME/CONTACT: Hawkins & Powers D. Hawkins	PHONE: (703) 567-8244

TYPE BUCKET/FIXED-TANK	CARRIED ON BOARD?	CAPACITY	FOAM INJECTION?
Bambi	X YES O NO	240	X YES O NO
	O YES O NO		O YES O NO

OTHER CAPABILITIES, AVIONICS, ETC.
9600 Radio

SPECIFIC CAPABILITIES

LONGLINE/REMOTE HOOK?	O YES X NO
CAROUSEL?	O YES X NO
CARGO LETDOWN?	O YES X NO
RAPPEL?	O YES X NO
SHORT-HAUL RESCUE?	O YES X NO
AERIAL IGNITION?	O PSD O HELITORCH

VENDOR SERVICE TRUCK	
MAKE AND MODEL	Ford
LICENSING STATE AND NO.	WY 6666
AVIATION FUEL TANK CAP.	1500

GOVERNMENT HELITENDER (CREW CHASE TRUCK) n/a

MAKE AND MODEL		4 WD?	O YES O NO
LICENSING STATE AND NO:		TRAILER?	O YES O NO
NUMBER OF SEATS		OTHER:	O YES O NO

FT/HR:	HOURLY AVAIL:	HRS GUAR/DAY:	SUBSISTENCE/DAY:	NO. OF VENDOR CREW:
614	Daily/3099	3	$66.00	2

MAINTENANCE AND VENDOR CREW INFORMATION

CURRENT HOBBS: 334.7 NEXT 100-HOUR DUE AT: 424.7

NAME	POSITION (PILOT/MECHANIC/DRIVER)	NEXT SCHED. DAY OFF	DATE RELIEF DUE IN
B. Hawkins	Pilot	9-1	9-1
B. Thorough	Mechanic/Driver	9-1	9-1

IF APPLICABLE, VENDOR CREW'S LODGING FACILITY: PHONE:

REMARKS:

DATE: —/—/—

HELICOPTER INFORMATION SHEET

(SUBMIT TO HELIBASE MANAGER IMMEDIATELY UPON ARRIVAL)

MAKE AND MODEL: Bell 205
N 224MS

A/C INC/PROJ ORDER NO: | REQUEST NO: A-

CHECK ONE:	CHECK ONE:	COLOR OF AIRCRAFT:
X EXCLUSIVE-USE CONTRACT O CALL-WHEN-NEEDED O AGENCY-OWNED O OTHER (EG, Military):	O TYPE 1 HELICOPTER X TYPE 2 HELICOPTER O TYPE 3 HELICOPTER LIMITED (RESTRICTED)? O YES X NO	White, Yellow/Green PASSENGER SEATS: 9

AGENCY AND HOME UNIT: BLM, Carson City, NV	PHONE: (702) 885-6000
COAR/COR NAME: Greg Gall, BLM, Neveda State Office, Reno, NV	PHONE: (702) 352-7006
CONTRACTING OFFICER NAME: Bob Carr, OAS, Boise, ID	PHONE: (208) 387-5760
COMPANY NAME/CONTACT: Ray Franz, Idaho Helicopters, Boise, ID	PHONE: (208) 344-4361

TYPE BUCKET/FIXED-TANK	CARRIED ON BOARD?	CAPACITY	FOAM INJECTION?
Bambi Bucket	X YES O NO	350	O YES X NO
Fixed tank-	X YES O NO	270	X YES O NO

OTHER CAPABILITIES, AVIONICS, ETC.

SPECIFIC CAPABILITIES

LONGLINE/REMOTE HOOK?	X YES O NO
CAROUSEL?	X YES O NO
CARGO LETDOWN?	X YES O NO
RAPPEL?	O YES X NO
SHORT-HAUL RESCUE?	O YES X NO
AERIAL IGNITION?	O PSD O HELITORCH

VENDOR SERVICE TRUCK	
MAKE AND MODEL	Dodge D600
LICENSING STATE AND NO.	ID BA1328
AVIATION FUEL TANK CAP.	1500 Gals.

GOVERNMENT HELITENDER (CREW CHASE TRUCK) n/a

MAKE AND MODEL	Chevy 3500	4 WD?	X YES O NO
LICENSING STATE AND NO:	I 162407	TRAILER?	O YES X NO
NUMBER OF SEATS	6	OTHER:	O YES O NO

FT/HR:	HOURLY AVAIL:	HRS GUAR/DAY:	SUBSISTENCE/DAY:	NO. OF VENDOR CREW:
632.00	350.00	8AH	66.00 or high area rate	3

MAINTENANCE AND VENDOR CREW INFORMATION

CURRENT HOBBS: _____ NEXT 100-HOUR DUE AT: _____

NAME	POSITION (PILOT/MECHANIC/DRIVER)	NEXT SCHED. DAY OFF	DATE RELIEF DUE IN
Dave Lund	Pilot - Primary	9-1	9-1
Greg Deacon	Pilot - Relieft	9-1	9-1
Rick Thlelman	Mechanic		
Bill Martin	Fuel Trk. Attend.		

IF APPLICABLE, VENDOR CREW'S LODGING FACILITY: PHONE:

REMARKS:

DATE: —/—/—

HELICOPTER INFORMATION SHEET

(SUBMIT TO HELIBASE MANAGER IMMEDIATELY UPON ARRIVAL)

MAKE AND MODEL: N 370EH Bell 212

A/C INC/PROJ ORDER NO: REQUEST NO: A-

CHECK ONE:	CHECK ONE:	COLOR OF AIRCRAFT:
X EXCLUSIVE-USE CONTRACT O CALL-WHEN-NEEDED O AGENCY-OWNED O OTHER (EG, Military):	O TYPE 1 HELICOPTER X TYPE 2 HELICOPTER O TYPE 3 HELICOPTER LIMITED (RESTRICTED)? O YES X NO	White, Red, Black PASSENGER SEATS: 11

AGENCY AND HOME UNIT: USFS Los Padres N.F.	PHONE: (702) 885-6000
COAR/COR NAME: Lonnie Briggs	PHONE: (702) 352-7006
CONTRACTING OFFICER NAME: Rick Willis	PHONE: (208) 287-5760
COMPANY NAME/CONTACT: Era Helicopters Sid Baird	PHONE: (208) 344-4361

TYPE BUCKET/FIXED-TANK	CARRIED ON BOARD?	CAPACITY	FOAM INJECTION?
Fixed Tank	X YES O NO	360 gl.	X YES O NO
Bambi	O YES X NO	400 gl	O YES X NO

OTHER CAPABILITIES, AVIONICS, ETC.

SPECIFIC CAPABILITIES

LONGLINE/REMOTE HOOK?	X YES O NO
CAROUSEL?	O YES X NO
CARGO LETDOWN?	X YES O NO
RAPPEL?	X YES O NO
SHORT-HAUL RESCUE?	O YES X NO
AERIAL IGNITION?	O PSD O HELITORCH

VENDOR SERVICE TRUCK	
MAKE AND MODEL	KW
LICENSING STATE AND NO.	NV 09006A
AVIATION FUEL TANK CAP.	8,000 gals.

GOVERNMENT HELITENDER (CREW CHASE TRUCK) n/a

MAKE AND MODEL	International	4 WD?	O YES X NO
LICENSING STATE AND NO:	A 168527	TRAILER?	O YES X NO
NUMBER OF SEATS	7	OTHER:	O YES O NO

FT/HR:	HOURLY AVAIL:	HRS GUAR/DAY:	SUBSISTENCE/DAY:	NO. OF VENDOR CREW:
681.00	2,504.00/Day		66.00	4

MAINTENANCE AND VENDOR CREW INFORMATION

CURRENT HOBBS: _____ NEXT 100-HOUR DUE AT: _____

NAME	POSITION (PILOT/MECHANIC/DRIVER)	NEXT SCHED. DAY OFF	DATE RELIEF DUE IN
Wayne Leitner	Pilot		
Jerry Nation	Pilot		
Al Tiffany	Mechanic		
Mike Schwind	Driver		

IF APPLICABLE, VENDOR CREW'S LODGING FACILITY: PHONE:

REMARKS:

DATE: —/—/—

HELICOPTER INFORMATION SHEET

(SUBMIT TO HELIBASE MANAGER IMMEDIATELY UPON ARRIVAL)

MAKE AND MODEL: B206 LIII
N 969W

A/C INC/PROJ ORDER NO: REQUEST NO: A-

CHECK ONE:	CHECK ONE:	COLOR OF AIRCRAFT:
X EXCLUSIVE-USE CONTRACT O CALL-WHEN-NEEDED O AGENCY-OWNED O OTHER (EG, Military):	O TYPE 1 HELICOPTER O TYPE 2 HELICOPTER X TYPE 3 HELICOPTER LIMITED (RESTRICTED)? O YES X NO	White PASSENGER SEATS: 6

AGENCY AND HOME UNIT: USDA, FS - Coronado N.F.	PHONE: (520) 824-3555
COAR/COR NAME: Alex Stone	PHONE: (520) 824-3555
CONTRACTING OFFICER NAME: P.J. Haar	PHONE: (520) 842-3126
COMPANY NAME/CONTACT: Brilles Wing and Helicopter	PHONE: (818) 994-1445

TYPE BUCKET/FIXED-TANK	CARRIED ON BOARD?	CAPACITY	FOAM INJECTION?
Bambi	X YES O NO	125 gl.	O YES X NO
	O YES O NO		O YES O NO

OTHER CAPABILITIES, AVIONICS, ETC.
9600, VHF, GPS, Intercom, V.O.R.

SPECIFIC CAPABILITIES

LONGLINE/REMOTE HOOK?	X YES O NO
CAROUSEL?	O YES X NO
CARGO LETDOWN?	X YES O NO
RAPPEL?	X YES O NO
SHORT-HAUL RESCUE?	O YES X NO
AERIAL IGNITION?	X PSD O HELITORCH

VENDOR SERVICE TRUCK	
MAKE AND MODEL	Chevy 250
LICENSING STATE AND NO.	CA 4C08849
AVIATION FUEL TANK CAP.	500 gals.

GOVERNMENT HELITENDER (CREW CHASE TRUCK) n/a

MAKE AND MODEL	Chevy 1 ton	4 WD?	X YES O NO
LICENSING STATE AND NO:	Govt.	TRAILER?	O YES X NO
NUMBER OF SEATS	6	OTHER:	O YES O NO

FT/HR:	HOURLY AVAIL:	HRS GUAR/DAY:	SUBSISTENCE/DAY:	NO. OF VENDOR CREW:
518.00			66.00	2

Daily Rate

MAINTENANCE AND VENDOR CREW INFORMATION

CURRENT HOBBS: 1568.2 NEXT 100-HOUR DUE AT: _____

NAME	POSITION (PILOT/MECHANIC/DRIVER)	NEXT SCHED. DAY OFF	DATE RELIEF DUE IN
Gene Wilson	Pilot	8/18 - 8/19	08-18
Carolyn Wilson	Driver	8/18 - 8/19	08-18

IF APPLICABLE, VENDOR CREW'S LODGING FACILITY: PHONE:

REMARKS:

DATE: —/—/—

HELICOPTER INFORMATION SHEET

(SUBMIT TO HELIBASE MANAGER IMMEDIATELY UPON ARRIVAL)

MAKE AND MODEL: N 6093R A-Star B-2

A/C INC/PROJ ORDER NO: *REQUEST NO: A-*

CHECK ONE:	CHECK ONE:	COLOR OF AIRCRAFT:
☒ EXCLUSIVE-USE CONTRACT ○ CALL-WHEN-NEEDED ○ AGENCY-OWNED ○ OTHER (EG, Military):	○ TYPE 1 HELICOPTER ○ TYPT 2 HELICOPTER ☒ TYPE 3 HELICOPTER LIMITED (RESTRICTED)? ○ YES ☒ NO	Maroon & White PASSENGER SEATS: 5

AGENCY AND HOME UNIT: USFS Beaverhead N.F. Dillion, Montana	PHONE: (406) 683-3975
COAR/COR NAME: George Johnson	PHONE: (406) 683-3975
CONTRACTING OFFICER NAME: Rick Willis	PHONE: (208) 387-5669
COMPANY NAME/CONTACT: River City Helicopters	PHONE: (208) 772-2117

TYPE BUCKET/FIXED-TANK	CARRIED ON BOARD?	CAPACITY	FOAM INJECTION?
Bambi	☒ YES ○ NO	250	☒ YES ○ NO
Griffith	○ YES ○ NO	275	○ YES ☒ NO

OTHER CAPABILITIES, AVIONICS, ETC.
9600, VHF, GPS, Intercom, V.O.R.

SPECIFIC CAPABILITIES

LONGLINE/REMOTE HOOK?	☒ YES ○ NO
CAROUSEL?	○ YES ☒ NO
CARGO LETDOWN?	○ YES ☒ NO
RAPPEL?	○ YES ☒ NO
SHORT-HAUL RESCUE?	○ YES ☒ NO
AERIAL IGNITION?	○ PSD ☒ HELITORCH

VENDOR SERVICE TRUCK	
MAKE AND MODEL	Ford F6000
LICENSING STATE AND NO.	ID YB2628
AVIATION FUEL TANK CAP.	1,200 gals.

GOVERNMENT HELITENDER (CREW CHASE TRUCK)			
MAKE AND MODEL	Chevy	4 WD?	☒ YES ○ NO
LICENSING STATE AND NO:	A238510.	TRAILER?	○ YES ☒ NO
NUMBER OF SEATS	6	OTHER:	○ YES ○ NO

FT/HR:	HOURLY AVAIL:	HRS GUAR/DAY:	SUBSISTENCE/DAY:	NO. OF VENDOR CREW:
461.00			66.00/person	3

Daily Rate

MAINTENANCE AND VENDOR CREW INFORMATION

CURRENT HOBBS: 2258.0 NEXT 100-HOUR DUE AT: 2281.0

NAME	POSITION (PILOT/MECHANIC/DRIVER)	NEXT SCHED. DAY OFF	DATE RELIEF DUE IN
Gordon Miscoi	Pilot	8/8	8/8
Eric Tannler	Mechanic	8/8	8/8
Bob Gust	Driver	8/8	8/8

IF APPLICABLE, VENDOR CREW'S LODGING FACILITY: PHONE:

REMARKS:

HELICOPTER CREW INFORMATION SHEET

CREW NAME OR RESOURCE ID #: N88976

(SUBMIT TO HELIBASE MANAGER IMMEDIATELY UPON ARRIVAL)

AIRCRAFT INCIDENT/PROJECT ORDER NUMBER _____–_____–_____ *AIRCRAFT REQUEST NUMBER:*_____

TYPE OF CREW: ( ) ATTACHED TO CONTRACT HELICOPTER (Do Not Enter Incident Order/Request Numbers For Each Individual)

( ) ATTACHED TO CWN HELICOPTER (Enter Overhead "O" Incident Order/Request Numbers In Column Next To Each Individual's Name)

NAME	ORDER/ REQUEST #	TRANSPORT METHOD	RETURN TO (CITY)	LAST DAY OFF	QUALIFICATIONS/ SPECIAL SKILLS	TRAINING NEEDS
Helicopter Manager J. Freeland	O-144	GOV	Caliente, NV	8-15	HCWN, HEB1, DIVS, STCR, HECM	
Assistant Manager						
Lead Crewperson						
Crewperson						
Crewperson						
Crewperson						
Crewperson						
Crewperson						
Crewperson						
Crewperson						

HELICOPTER CREW INFORMATION SHEET

(SUBMIT TO HELIBASE MANAGER IMMEDIATELY UPON ARRIVAL)

CREW NAME OR RESOURCE ID #: 224MS

AIRCRAFT INCIDENT/PROJECT ORDER NUMBER _____–_____–_____ *AIRCRAFT REQUEST NUMBER:*_____

TYPE OF CREW: ( ) ATTACHED TO CONTRACT HELICOPTER (Do Not Enter Incident Order/Request Numbers For Each Individual)

( ) ATTACHED TO CWN HELICOPTER (Enter Overhead "O" Incident Order/Request Numbers In Column Next To Each Individual's Name)

NAME	ORDER/ REQUEST #	TRANSPORT METHOD	RETURN TO (CITY)	LAST DAY OFF	QUALIFICATIONS/ SPECIAL SKILLS	TRAINING NEEDS
Helicopter Manager Craig Hall					HECM, HCWN, HEB2	
Assistant Manager Kevin Johnson					HECM, HCWN	
Lead Crewperson Jason Merrell					HECM, RADO	
Crewperson Scott Johnson					HECM	
Crewperson Stacey Saucedo					HECM, RADO	
Crewperson Shane O'Connell					HECM	
Crewperson Atticus Vorce					HECM	
Crewperson						
Crewperson						
Crewperson						

HELICOPTER CREW INFORMATION SHEET

CREW NAME OR RESOURCE ID #: Arroyo Grande 370EH

(SUBMIT TO HELIBASE MANAGER IMMEDIATELY UPON ARRIVAL)

AIRCRAFT INCIDENT/PROJECT ORDER NUMBER _____–_____–_____ *AIRCRAFT REQUEST NUMBER:*_____

TYPE OF CREW: (X) ATTACHED TO CONTRACT HELICOPTER (Do Not Enter Incident Order/Request Numbers For Each Individual)

( ) ATTACHED TO CWN HELICOPTER (Enter Overhead "O" Incident Order/Request Numbers In Column Next To Each Individual's Name)

NAME	ORDER/ REQUEST #	TRANSPORT METHOD	RETURN TO (CITY)	LAST DAY OFF	QUALIFICATIONS/ SPECIAL SKILLS	TRAINING NEEDS
Helicopter Manager Ted Mathiesen			Arroyo Grande		OSC2, SOF2, HEB1, HERS, HRAP, OPB2	
Assistant Manager Keith Alvord			Arroyo Grande		DIVS, HEB1, DOZB, FALC, HRAP, FELB, STEN, STCR	
Lead Crewperson Al Driesbach			Arroyo Grande		DIVS, HEB1, HERS, HRAP, HLCO	
Crewperson Vince La Rocco			Arroyo Grande		FFT1, HRAP, EMT1, TOLC	
Crewperson Scot Baskett			Arroyo Grande		FFT2, HRAP, EMT1, TOLC	
Crewperson Travis Ederer			Arroyo Grande		FFT2, HRAP, EMT1, TOLC	
Crewperson Dave Sewell			Arroyo Grande		FFT2, HRAP	
Crewperson						
Crewperson						
Crewperson						

HELICOPTER CREW INFORMATION SHEET

CREW NAME OR RESOURCE ID #: 969W

(SUBMIT TO HELIBASE MANAGER IMMEDIATELY UPON ARRIVAL)

AIRCRAFT INCIDENT/PROJECT ORDER NUMBER _____–_____–_____ *AIRCRAFT REQUEST NUMBER:*_____

TYPE OF CREW: ( ) ATTACHED TO CONTRACT HELICOPTER (Do Not Enter Incident Order/Request Numbers For Each Individual)

( ) ATTACHED TO CWN HELICOPTER (Enter Overhead "O" Incident Order/Request Numbers In Column Next To Each Individual's Name)

NAME	ORDER/ REQUEST #	TRANSPORT METHOD	RETURN TO (CITY)	LAST DAY OFF	QUALIFICATIONS/ SPECIAL SKILLS	TRAINING NEEDS
Helicopter Manager Alex Stone			Boise, ID	7/27	HEB1, HERS, HRAP, FALB, CRWB, FLIR, HCWN	
Assistant Manager Manuel Gil				7/25	FFT1, CRWB, HRAP, HERS, PACK, HCWN	DIVS
Lead Crewperson						
Crewperson Jami Butler				7/27	HCWN, HECM, HEB1, HRAP, LOAD, FALB, ABRO	
Crewperson David Pyers				7/28	HECM, HRAP, FFT2, LOAD, ABRO	
Crewperson Al Roper				7/25	HECM, HRAP, FFT2, LOAD, ABRO	
Crewperson Rueben Morales				7/28	HECM	
Crewperson						
Crewperson						
Crewperson						

HELICOPTER CREW INFORMATION SHEET

CREW NAME OR RESOURCE ID #: 6093R

(SUBMIT TO HELIBASE MANAGER IMMEDIATELY UPON ARRIVAL)

AIRCRAFT INCIDENT/PROJECT ORDER NUMBER _____–_____–_____ *AIRCRAFT REQUEST NUMBER:*_____

TYPE OF CREW: ( ) ATTACHED TO CONTRACT HELICOPTER (Do Not Enter Incident Order/Request Numbers For Each Individual)

( ) ATTACHED TO CWN HELICOPTER (Enter Overhead "O" Incident Order/Request Numbers In Column Next To Each Individual's Name)

NAME	ORDER/ REQUEST #	TRANSPORT METHOD	RETURN TO (CITY)	LAST DAY OFF	QUALIFICATIONS/ SPECIAL SKILLS	TRAINING NEEDS
Helicopter Manager Denny Nesbitt		Helicopter	Dillion, MT	7-23	TFLD, HECM, IARR, HRSP, ENOP, MODEL 60 & UNDER	DIVS, ASGS
Assistant Manager Rosy Perry		Helicopter	Dillion, MT	7-27	FFT1, ENGB, HEB2, FALC	CRWB, DEKC
Lead Crewperson						
Crewperson Thor Casey		GOV	Dillion, MT	7-23		
Crewperson Jim Woodcock		GOV	Dillion, MT		FFT1, HECM, FALB, ENGB, ICT4	
Crewperson Jill Olson		GOV	Dillion, MT		FFT2, FALB	
Crewperson Mike Rowe		GOV	Dillion, MT		FFT2, ENOP, FALB	SQBS, HECM, ENGB
Crewperson						
Crewperson						
Crewperson						

SINGLE HELICOPTER LOAD CAPABILITY PLANNING SUMMARY
MULTIPLE HELISPOTS AND FUEL LOADS

DAY 5

DATE: ___/___/___

BLOCK 1: HELICOPTER I NFORMATION N88976		
DATE: Day 5	MAKE/MODEL: Bell UH-1B	PILOT: B. Hawkins
A/C EQUIPPED WEIGHT:	FULL FUEL WT: _____	_____ _____
FLIGHT CREW WT:	AT _____ GALLONS	_____

BLOCK 2: ALLOWABLE PAYLOADS	HELISPOTS OR PRESSURE ALTITUDE IN 500-FOOT INCREMENTS						
	HELIBASE	H95 *T-III Only	H111	H119	H51 *T-III Only	H-59	H-80
ELEVATION	3920	5800	6000	6500	6500	6000	6300
TEMP	ALLOWABLE PAYLOADS AT FULL OR WORKING (Circle One) FUEL WEIGHT : HIGE / HOGE						
5C OR 41F	/	/	/	/	/	/	/
10C OR 50F	/	/	/	/	/	/	/
15C OR 50F	/	/	/	/	/	/	/
20C OR 68F	/	/	/	/	/	/	/
25C OR 77F	/	/	/	/	/	/	/
30C OR 86F	/	/	/ 1400	/ 1400	/	/ 1400	/ 1400
35C OR 95F	/	/	/	/	/	/	/
40C OR 104F	/	/	/	/	/	/	/
45C OR 113F	/	/	/	/	/	/	/
50C OR 122F	/	/	/	/	/	/	/

BLOCK 3: PAYLOAD ADJUSTMENTS. ADD THESE WEIGHTS TO ALLOWABLE PAYLOAD ONLY IF THE REMAINING FUELS IS EQUAL TO OR LESS THAN THE FULL OR WORKING FUEL WEIGHT AS INDICATED ABOVE.

IF _____ GALS FUEL, THEN ADD _____ LBS
IF _____ GALS FUEL, THEN ADD _____ LBS
IF _____ GALS FUEL, THEN ADD _____ LBS
IF _____ GALS FUEL, THEN ADD _____ LBS

SINGLE HELICOPTER LOAD CAPAB ILITY PLANNING SUMMARY - MULTIPLE HELISPOTS AND FUEL LOADS

DAY 5

DATE: ___/___/___

BLOCK 1: HELICOPTER I NFORMATION 224MS		
DATE: Day 5	MAKE/MODEL: Bell 205	PILOT: D. Lund
A/C EQUIPPED WEIGHT:	FULL FUEL WT: _____	_____ _____
FLIGHT CREW WT:	AT _____ GALLONS	_____

BLOCK 2: ALLOWABLE PAYLOADS	HELISPOTS OR PRESSURE ALTITUDE IN 500-FOOT INCREMENTS						
	HELIBASE	H95 *T-III Only	H111	H119	H51 *T-III Only	H-59	H-80
ELEVATION	3920	5800	6000	6500	6500	6000	6300
TEMP	ALLOWABLE PAYLOADS AT FULL OR WORKING (Circle One) FUEL WEIGHT : HIGE / HOGE						
5C OR 41F	/	/	/	/	/	/	/
10C OR 50F	/	/	/	/	/	/	/
15C OR 50F	/	/	/	/	/	/	/
20C OR 68F	/	/	/	/	/	/	/
25C OR 77F	/	/	/	/	/	/	/
30C OR 86F	/	/	/ 1540	/ 1540	/	/ 1540	/ 1540
35C OR 95F	/	/	/	/	/	/	/
40C OR 104F	/	/	/	/	/	/	/
45C OR 113F	/	/	/	/	/	/	/
50C OR 122F	/	/	/	/	/	/	/

BLOCK 3: PAYLOAD ADJUSTMF NTS. ADD THESE WEIGHTS TO ALLOWABLE PAYLOAD ONLY IF THE REMAINING FUELS IS EQUAL TO OR LESS THAN THE FULL OR WORKING F :EL WEIGHT AS INDICATED ABOVE.

IF _____ GALS FUEL, THEN ADD _____ LBS IF _____ GALS FUEL, THEN ADD _____ LBS

IF _____ GALS FUEL, THEN ADD _____ LBS IF _____ GALS FUEL, THEN ADD _____ LBS

SINGLE HELICOPTER LOAD CAPAB ILITY PLANNING SUMMARY - MULTIPLE HELISPOTS AND FUEL LOADS

DAY 5

DATE: ___/___/___

BLOCK 1: HELICOPTER I NFORMATION 370 EH		
DATE: Day 5	MAKE/MODEL: Bell 212	PILOT: W. Leitner
A/C EQUIPPED WEIGHT:	FULL FUEL WT: _____	_____ _____
FLIGHT CREW WT:	AT _____ GALLONS	_____

BLOCK 2: ALLOWABLE PAYLOADS	HELISPOTS OR PRESSURE ALTITUDE IN 500-FOOT INCREMENTS						
	HELIBASE	H95 *T-III Only	H111	H119	H51 *T-III Only	H-59	H-80
ELEVATION	3920	5800	6000	6500	6500	6000	6300
TEMP	ALLOWABLE PAYLOADS AT FULL OR WORKING (Circle One) FUEL WEIGHT : HIGE / HOGE						
5C OR 41F	/	/	/	/	/	/	/
10C OR 50F	/	/	/	/	/	/	/
15C OR 50F	/	/	/	/	/	/	/
20C OR 68F	/	/	/	/	/	/	/
25C OR 77F	/	/	/	/	/	/	/
30C OR 86F	/	/	/ 1690	/ 1690	/	/ 1690	/ 1690
35C OR 95F	/	/	/	/	/	/	/
40C OR 104F	/	/	/	/	/	/	/
45C OR 113F	/	/	/	/	/	/	/
50C OR 122F	/	/	/	/	/	/	/

BLOCK 3: PAYLOAD ADJUSTMENTS. ADD THESE WEIGHTS TO ALLOWABLE PAYLOAD ONLY IF THE REMAINING FUELS IS EQUAL TO OR LESS THAN THE FULL OR WORKING FUEL WEIGHT AS INDICATED ABOVE.

IF _____ GALS FUEL, THEN ADD _____ LBS IF _____ GALS FUEL, THEN ADD _____ LBS
IF _____ GALS FUEL, THEN ADD _____ LBS IF _____ GALS FUEL, THEN ADD _____ LBS

SINGLE HELICOPTER LOAD CAPAB ILITY PLANNING SUMMARY - MULTIPLE HELISPOTS AND FUEL LOADS

DAY 5

DATE: ___/___/___

BLOCK 1: HELICOPTER I NFORMATION 969W		
DATE: Day 5	MAKE/MODEL: L-3	PILOT: G. Wilson
A/C EQUIPPED WEIGHT:	FULL FUEL WT: _____	_____ _____
FLIGHT CREW WT:	AT _____ GALLONS	_____

BLOCK 2: ALLOWABLE PAYLOADS	HELISPOTS OR PRESSURE ALTITUDE IN 500-FOOT INCREMENTS						
	HELIBASE	H95 *T-III Only	H111	H119	H51 *T-III Only	H-59	H-80
ELEVATION	3920	5800	6000	6500	6500	6000	6300
TEMP	ALLOWABLE PAYLOADS AT FULL OR WORKING (Circle One) FUEL WEIGHT : HIGE / HOGE						
5C OR 41F	/	/	/	/	/	/	/
10C OR 50F	/	/	/	/	/	/	/
15C OR 50F	/	/	/	/	/	/	/
20C OR 68F	/	/	/	/	/	/	/
25C OR 77F	/	/	/	/	/	/	/
30C OR 86F	/	/ 405	/ 405	/ 405	405 /	/ 405	/ 405
35C OR 95F	/	/	/	/	/	/	/
40C OR 104F	/	/	/	/	/	/	/
45C OR 113F	/	/	/	/	/	/	/
50C OR 122F	/	/	/	/	/	/	/

BLOCK 3: PAYLOAD ADJUSTMENTS. ADD THESE WEIGHTS TO ALLOWABLE PAYLOAD ONLY IF THE REMAINING FUELS IS EQUAL TO OR LESS THAN THE FULL OR WORKING FUEL WEIGHT AS INDICATED ABOVE.

IF _____ GALS FUEL, THEN ADD _____ LBS
IF _____ GALS FUEL, THEN ADD _____ LBS
IF _____ GALS FUEL, THEN ADD _____ LBS
IF _____ GALS FUEL, THEN ADD _____ LBS

SINGLE HELICOPTER LOAD CAPAB ILITY PLANNING SUMMARY - MULTIPLE HELISPOTS AND FUEL LOADS

DAY 5

DATE: ___/___/___

BLOCK 1: HELICOPTER I NFORMATION 6093R		
DATE: Day 5	MAKE/MODEL: AS-350 B2	PILOT: G. Misoi
A/C EQUIPPED WEIGHT:	FULL FUEL WT: _____	_____ _____
FLIGHT CREW WT:	AT _____ GALLONS	_____

BLOCK 2: ALLOWABLE PAYLOADS	HELISPOTS OR PRESSURE ALTITUDE IN 500-FOOT INCREMENTS						
	HELIBASE	H95 *T-III Only	H111	H119	H51 *T-III Only	H-59	H-80
ELEVATION	3920	5800	6000	6500	6500	6000	6300
TEMP	ALLOWABLE PAYLOADS AT FULL OR WORKING (Circle One) FUEL WEIGHT : HIGE / HOGE						
5C OR 41F	/	/	/	/	/	/	/
10C OR 50F	/	/	/	/	/	/	/
15C OR 50F	/	/	/	/	/	/	/
20C OR 68F	/	/	/	/	/	/	/
25C OR 77F	/	/	/	/	/	/	/
30C OR 86F	/	/ 510	/ 510	/ 510	510 /	/ 510	/ 510
35C OR 95F	/	/	/	/	/	/	/
40C OR 104F	/	/	/	/	/	/	/
45C OR 113F	/	/	/	/	/	/	/
50C OR 122F	/	/	/	/	/	/	/

BLOCK 3: PAYLOAD ADJUSTMENTS. ADD THESE WEIGHTS TO ALLOWABLE PAYLOAD ONLY IF THE REMAINING FUELS IS EQUAL TO OR LESS THAN THE FULL OR WORKING FUEL WEIGHT AS INDICATED ABOVE.

IF _____ GALS FUEL, THEN ADD _____ LBS
IF _____ GALS FUEL, THEN ADD _____ LBS
IF _____ GALS FUEL, THEN ADD _____ LBS
IF _____ GALS FUEL, THEN ADD _____ LBS

RESOURCE PLANNING CAPABILITY CHART

SUBMIT TO THE AIR SUPPORT OR AIR OPERATIONS DIRECTOR PRIOR TO 1200 DAILY

(NOTE: DELETE ONE ROUND TRIP/HOUR FOR REFUELING)

HELIBASE: Wildfire TEMP: 30 c PRESS ALT: 3920					HELISPOT #: 95 TEMP: 30 c PRESS ALT: 5800 Type III only HIGE? _____ HOGE? X					HELISPOT #: 59 TEMP: 30 c PRESS ALT: 6000 HIGE? _____ HOGE? X					HELISPOT #: 91 TEMP: 30 c PRESS ALT: 6500 HIGE? _____ HOGE? X				
A/C MODEL	FAA N #	COST/ HR	# SEATS (PAX)	STATUS (AVAIL DATE/ TIME)	MAX SLING LOAD LBS	MAX PAX @ 240 LBS	RND TRPS PER HR	HOURLY CAPABILITY SLING	HOURLY CAPABILITY PAX	MAX SLING LOAD LBS	MAX PAX @ 240 LBS	RND TRPS PER HR	HOURLY CAPABILITY SLING	HOURLY CAPABILITY PAX	MAX SLING LOAD LBS	MAX PAX @ 240 LBS	RND TRPS PER HR	HOURLY CAPABILITY SLING	HOURLY CAPABILITY PAX
B206 L-3	969W		4		405	1	1-2	405	1	405	1	2	810	2	405	1	2	810	2
AS-350 B2	6093R		5		510	2		405	2	510	2	2	1020	4	510	2	2	1020	4
Bell 212	370EH		9		1690	6		1690	6	1690	6	2	3380	12	1690	6	2	3380	12
Bell 205	224MS		9		1540	5		1540	5	1540	5	2	3080	10	1540	5	2	3080	10
BUH 1B	88976		R		1400					1400					1400				
TOTALS																			

RESOURCE PLANNING CAPABILITY CHART

SUBMIT TO THE AIR SUPPORT OR AIR OPERATIONS DIRECTOR PRIOR TO 1200 DAILY

(NOTE: DELETE ONE ROUND TRIP/HOUR FOR REFUELING)

HELIBASE: Wildfire TEMP: 30 C PRESS ALT: 3920					HELISPOT #: 85 TEMP: 30 C PRESS ALT: 5800 HIGE? _____ HOGE? X					HELISPOT #: 111 TEMP: 30 C PRESS ALT: 6000 HIGE? _____ HOGE? X					HELISPOT #: 119 TEMP: 30 C PRESS ALT: 6500 HIGE? _____ HOGE? X				
A/C MODEL	FAA N #	COST/ HR	# SEATS (PAX)	STATUS (AVAIL DATE TIME)	MAX SLING LOAD LBS	MAX PAX @ 240 LBS	RND TRPS PER HR	HOURLY CAPABILITY SLING	HOURLY CAPABILITY PAX	MAX SLING LOAD LBS	MAX PAX @ 240 LBS	RND TRPS PER HR	HOURLY CAPABILITY SLING	HOURLY CAPABILITY PAX	MAX SLING LOAD LBS	MAX PAX @ 240 LBS	RND TRPS PER HR	HOURLY CAPABILITY SLING	HOURLY CAPABILITY PAX
B206 L-3	969W		4		405	1	31-2	1215	3	405	1	4	1620	4	405	1	4	1620	4
AS-350 B2	6093R		5		510	2		2530	6	510	2		2040	8	510	2		2040	8
Bell 212	370EH		9		1690	6		5070	18	1690	6		6760	24	1690	6		6760	24
Bell 205	224MS		9		1540	5		4620	15	1540	5		6160	20	1540	5		6160	20
BUH 1B	88976		R		1400					1400					1400				
TOTALS:																			

HELIBASE: _____ **HELIBASE AIRCRAFT INFORMATION SUMMARY** DATE: ___/___/___

FAAN# / MAKE/MODEL	TYPE (1-3) / CNTR, CWN, OR OTHER	VENDOR / HOME BASE	PILOT NAME / HELIC MGR NAME	$ FT/HOUR / GT/DAY	$ AVAIL/DAY OR / $AV/HOUR	PAX SEATS / BUCKETOR TANK AC. CAP	CHECK IF AVAILABLE: FLIR	LONG LINE	RAP-PEL	CARGO LETDOWN	FOAM	REMARKS
							OTHER CAPABILITIES					
							OTHER CAPABILITIES					
							OTHER CAPABILITIES					
							OTHER CAPABILITIES					
							OTHER CAPABILITIES					
							OTHER CAPABILITIES					

INCIDENT/PROJECT: ____________ DATE: ___/___/___

HELISPOT INFORMATION SUMMARY

Provide Briefing to All Pilots Who Have Not Previously Flown to these Locations; Refer to Incident or Project Map During Briefing

HELISPOT OR OTHER LOCATION (Dip Sites, Drop Points)	DATE/TIME LOCATION ESTAB	APPROVED FOR		ELEV	LOCATION		TOPOGRAPHY: Point, Knob, Ridge, Saddle, Meadow, Flat, Other (Specify)	AVER RT TIME	HAZARDS/REMARKS
		IGE/ OGE	TYPE HELICS		LAT	LONG			

EXERCISE: Planning

Update your display boards with the information below and information from the previous exercise. There is information that will affect your decisions on the division assignment pages and the air operations summary of the Day 5 IAP. There is no perfect plan. The objective is to use the tools available (IAP, IHOG forms, etc.).

- Helicopter 4MS will be unavailable due to recent mechanical problems.
- Review the IAP and determine the missions you need to accomplish or cannot accomplish.
- Set helibase priorities and assign resources to each mission.
- Identify any other IHOG forms that might be used.
- Plan for the unexpected.
- Describe the method to make the plan known.

HELICOPTER DAILY USE AND COST SUMMARY

(Submit to Helibase Manager at End of Each Day's Operations)

HELIBASE: Wildfire DATE: / / HELICOPTER N #: 88976

MAKE/MODEL: Bell UH-1B MANAGER'S NAME: J. Freeland

TYPE: 1 X 2 3 X CWN CONTRACT OTHER (Specify):

FLIGHT INVOICE REFERENCE NUMBER(S):

				COSTS:
FLIGHT TIME (HRS)		HOURLY RATE		
4.9	x	619.00	= TOTAL FT COST:	$ 3,033.10
AVAIL (HRS or DAY)*		HRLY OR DAILY RATE	+	
	x	3,099.00	= TOTAL AV COST:	$ 3,099.00
EXTENDED PILOT STANDBY		HOURLY RATE	+	
3	x	30.00	= TOTAL EP COST:	$ 90.00
EXT. DRIVER STANDBY		HOURLY RATE	+	
3	x	30.00	= TOTAL ET COST:	$ 90.00
EXT. MECHANIC STANDBY		HOURLY RATE	+	
	x		= TOTAL EM COST:	$
# OF CREWMEMBERS		R.O.N. (FS) RATE/DAY	+	
2	x	66.00	= TOTAL FS COST:	$ 132.00
SERVICE TRUCK MILES		RATE/MILE	+	
22.1	x	1.00	= TOTAL SM COST:	$ 22.10
GALLONS FOAM CONCENTRATE USED		COST/ GALLON	+	
	x		= TOT FOAM COST:	$
GALLONS RETARDANT USED		COST/ GALLON	x	
	x		= TOT RET. COST:	$
SPECIAL EQUPMENT (Radio, FLIR, Longline/Remote Hook, Agency-Supplied Fuel, etc.)			= TOT SPECIAL COST:	+
			TODAY'S TOTAL COSTS:	$ 6,466.20

USE:

TOTAL PASSENGERS TRANSPORTED	TOTAL LBS CARGO DELIVERED	TOTAL GALLONS WATER	TOTAL GALLONS RETARDANT	TOTAL GALLONS FOAM
				7,600

COMMENTS:

* Do not calculate for exclusive use contracts where availability is paid from presuppression funds.

HELICOPTER DAILY USE AND COST SUMMARY

(Submit to Helibase Manager at End of Each Day's Operations)

HELIBASE: Wildfire DATE: __/__/__ HELICOPTER N #: N224MS

MAKE/MODEL: Bell 205 MANAGER'S NAME: Hall

TYPE: __1 X 2 __3 __ CWN _X CONTRACT __OTHER (Specify): _____

FLIGHT INVOICE REFERENCE NUMBER(S): _____

FLIGHT TIME (HRS)	x	HOURLY RATE	COSTS: = TOTAL FT COST: $	
AVAIL (HRS or DAY)* 8.0	x	HRLY OR DAILY RATE 350	+ = TOTAL AV COST: $	2,800.00
EXTENDED PILOT STANDBY	x	HOURLY RATE	+ = TOTAL EP COST: $	
EXT. DRIVER STANDBY	x	HOURLY RATE	+ = TOTAL ET COST: $	
EXT. MECHANIC STANDBY	x	HOURLY RATE	+ = TOTAL EM COST: $	
# OF CREWMEMBERS 3	x	R.O.N. (FS) RATE/DAY 66.00	+ = TOTAL FS COST: $	198.00
SERVICE TRUCK MILES	x	RATE/MILE	+ = TOTAL SM COST: $	
GALLONS FOAM CONCENTRATE USED	x	COST/ GALLON	+ = TOT FOAM COST: $	
GALLONS RETARDANT USED	x	COST/ GALLON	x = TOT RET. COST: $	
SPECIAL EQUPMENT (Radio, FLIR, Longline/Remote Hook, Agency-Supplied Fuel, etc.)			= TOT SPECIAL COST: +	
			TODAY'S TOTAL COSTS: $	2,998.00

USE:

TOTAL PASSENGERS TRANSPORTED	TOTAL LBS CARGO DELIVERED	TOTAL GALLONS WATER	TOTAL GALLONS RETARDANT	TOTAL GALLONS FOAM
21	400			

COMMENTS: Ship docked .2 hr. on availability, for replacement of generator and OAS approval to bring back on line.

* Do not calculate for exclusive use contracts where availability is paid from presuppression funds.

HELICOPTER DAILY USE AND COST SUMMARY

(Submit to Helibase Manager at End of Each Day's Operations)

HELIBASE: Wildfire DATE: __/__/__ HELICOPTER N #: 370EH

MAKE/MODEL: Bell 212 MANAGER'S NAME: Mathiesen

TYPE: __1 X __2 __3 __ CWN _X CONTRACT __OTHER (Specify): _____

FLIGHT INVOICE REFERENCE NUMBER(S): _____

FLIGHT TIME (HRS)		HOURLY RATE	COSTS:		
6.5	x	681.00	= TOTAL FT COST:	$	4,426.50
AVAIL (HRS or DAY)*		HRLY OR DAILY RATE	+		
	x		= TOTAL AV COST:	$	
EXTENDED PILOT STANDBY		HOURLY RATE	+		
10	x	29.00	= TOTAL EP COST:	$	290.00
EXT. DRIVER STANDBY		HOURLY RATE	+		
5	x	29.00	= TOTAL ET COST:	$	145.00
EXT. MECHANIC STANDBY		HOURLY RATE	+		
OFF	x		= TOTAL EM COST:	$	
# OF CREWMEMBERS		R.O.N. (FS) RATE/DAY	+		
4	x	66.00	= TOTAL FS COST:	$	264.00
SERVICE TRUCK MILES		RATE/MILE	+		
	x		= TOTAL SM COST:	$	
GALLONS FOAM CONCENTRATE USED		COST/ GALLON	+		
	x		= TOT FOAM COST:	$	
GALLONS RETARDANT USED		COST/ GALLON	x		
	x		= TOT RET. COST:	$	
SPECIAL EQUPMENT (Radio, FLIR, Longline/Remote Hook, Agency-Supplied Fuel, etc.)			= TOT SPECIAL COST:	+	
			TODAY'S TOTAL COSTS:	$	5,125.50

USE:

TOTAL PASSENGERS TRANSPORTED	TOTAL LBS CARGO DELIVERED	TOTAL GALLONS WATER	TOTAL GALLONS RETARDANT	TOTAL GALLONS FOAM
103	500			7,350

COMMENTS:

* Do not calculate for exclusive use contracts where availability is paid from presuppression funds.

HELICOPTER DAILY USE AND COST SUMMARY

(Submit to Helibase Manager at End of Each Day's Operations)

HELIBASE: Wildfire DATE: __/__/__ HELICOPTER N #: N969W

MAKE/MODEL: Bell 206 BIII MANAGER'S NAME: Stone

TYPE: __1 __2 X 3 __CWN X CONTRACT __OTHER (Specify): _____

FLIGHT INVOICE REFERENCE NUMBER(S): _____

FLIGHT TIME (HRS)		HOURLY RATE		COSTS:	
3.0	x	518.00		= TOTAL FT COST:	$ 1,554.00
AVAIL (HRS or DAY)*		HRLY OR DAILY RATE		+	
	x			= TOTAL AV COST:	$
EXTENDED PILOT STANDBY		HOURLY RATE		+	
4	x	30.00		= TOTAL EP COST:	$ 120.00
EXT. DRIVER STANDBY		HOURLY RATE		+	
4	x	30.00		= TOTAL ET COST:	$ 120.00
EXT. MECHANIC STANDBY		HOURLY RATE		+	
	x			= TOTAL EM COST:	$
# OF CREWMEMBERS		R.O.N. (FS) RATE/DAY		+	
2	x	66.00		= TOTAL FS COST:	$ 132.00
SERVICE TRUCK MILES		RATE/MILE		+	
57	x	.75		= TOTAL SM COST:	$ 42.75
GALLONS FOAM CONCENTRATE USED		COST/ GALLON		+	
	x			= TOT FOAM COST:	$
GALLONS RETARDANT USED		COST/ GALLON		x	
	x			= TOT RET. COST:	$
SPECIAL EQUPMENT (Radio, FLIR, Longline/Remote Hook, Agency-Supplied Fuel, etc.)				= TOT SPECIAL COST:	+
				TODAY'S TOTAL COSTS:	$ 1,968.75

USE:

TOTAL PASSENGERS TRANSPORTED	TOTAL LBS CARGO DELIVERED	TOTAL GALLONS WATER	TOTAL GALLONS RETARDANT	TOTAL GALLONS FOAM
8	30			

COMMENTS:

* Do not calculate for exclusive use contracts where availability is paid from presuppression funds.

HELICOPTER DAILY USE AND COST SUMMARY

(Submit to Helibase Manager at End of Each Day's Operations)

HELIBASE: Wildfire DATE: __/__/__ HELICOPTER N #: 6093R

MAKE/MODEL: AS 350 B2 MANAGER'S NAME: D. Nesbitt

TYPE: __1 __2 X 3 __CWN X CONTRACT __OTHER (Specify): _____

FLIGHT INVOICE REFERENCE NUMBER(S): _____

FLIGHT TIME (HRS)	HOURLY RATE	COSTS:		
6.0 x	461.00	= TOTAL FT COST:	$	2,766.00
AVAIL (HRS or DAY)* x	HRLY OR DAILY RATE	+ = TOTAL AV COST:	$	
EXTENDED PILOT STANDBY 5 x	HOURLY RATE 35.00	+ = TOTAL EP COST:	$	175.00
EXT. DRIVER STANDBY 5 x	HOURLY RATE 22.00	+ = TOTAL ET COST:	$	110.00
EXT. MECHANIC STANDBY x	HOURLY RATE	+ = TOTAL EM COST:	$	
# OF CREWMEMBERS 2 x	R.O.N. (FS) RATE/DAY 66.00	+ = TOTAL FS COST:	$	132.00
SERVICE TRUCK MILES 57 x	RATE/MILE .80	+ = TOTAL SM COST:	$	45.60
GALLONS FOAM CONCENTRATE USED x	COST/ GALLON	+ = TOT FOAM COST:	$	
GALLONS RETARDANT USED x	COST/ GALLON	x = TOT RET. COST:	$	
SPECIAL EQUPMENT (Radio, FLIR, Longline/Remote Hook, Agency-Supplied Fuel, etc.)		= TOT SPECIAL COST: +		
		TODAY'S TOTAL COSTS:	$	3,228.60

USE:

TOTAL PASSENGERS TRANSPORTED	TOTAL LBS CARGO DELIVERED	TOTAL GALLONS WATER	TOTAL GALLONS RETARDANT	TOTAL GALLONS FOAM
6				

COMMENTS:

* Do not calculate for exclusive use contracts where availability is paid from presuppression funds.

HELIBASE DAILY USE AND COST SUMMARY

SUBMIT TO THE AIR SUPPORT OR AIR OPERATIONS DIRECTOR AT THE END OF EACH OPERATIONAL PERIOD; USE ADDITIONAL SHEETS AS NECESSARY

OPERATIONAL PERIOD: _____ HELIBASE NAME: _____ INCIDENT/PROJECT NAME: _____ HELIBASE MANAGER: _____

			USE						COSTS
AIRCRAFT REGISTRATION NUMBER	MAKE/MODEL	TYPE (1,2, OR 3)	TOTAL PAX TRANSP	LBS. CARGO MOVED	GALLONS WATER DELIV	GALLONS FOAM DELIV	GALLONS RETARDANT DELIV	ACTUAL FLIGHT HRS	TOTAL AIRCRAFT COST *
									$
									$
									$
									$
									$
									$
									$
									$
									$
									$
									$
									$
TOTAL FOR HELIBASE:									$

COST OF MATERIAL FOR HELIBASE DUST ABATEMENT (if applicable): $

TOTAL COST OF HELIBASE THIS OPERATIONAL PERIOD: $

Total Cost = FT Cost (or daily guarantee cost if minimum flight hours not met on CWN aircraft) + Daily Availability (CWN Aircraft only) + Extended Standby For Pilot/Mechanic/Driver + Subsistence + Service Truck Miles + Retardant/Foam Cost. Obtain from individual Helicopter Daily Use and Cost Summaries.

Helibase Manager, S-371

Unit 7 – Helibase Operations Tactical/Logistical

OBJECTIVES:

Upon completion of this unit, students will be able to:

1. Given simulated situations, demonstrate the ability to manage requests for tactical and logistical missions.

2. Describe how to implement effective communications in changing operational situations.

I. MISSION REQUESTS

A. Ordering

Who can order?

1. Tactical:

   - Incident Commander
   - Operations (DIVS, branch, group, crew)
   - Air operations branch director
   - Air tactical group supervisor
   - Air support group supervisor

2. Logistical:

   - Incident Commander
   - Planning Section Chief
   - Logistics Section Chief
   - Helispot manager

Orders typically come through the supervisor down the chain of command.

In most cases it would be unrealistic for all requests to be channeled through the air support group supervisor.

It is essential that ordering channels and authority be identified and made clear to all.

EXERCISE: Tactical/Logistical Situation

Refer to the helibase operations tactical/logistical situation (page 7.11).

TACTICAL/LOGISTICAL SCENARIO #1.

Refer to Scenario #1 (page 7.13) and answer the questions.

B. How are orders received by the Helibase Manager?

1. From the Incident Action Plan

2. ICS 220, Air Operations Summary

3. ICS 204's, Division Assignment sheets

4. Oral communications

   - Radio
   - In-person
   - Telephone - cellular

5. Written communications

   - General message form, ICS 213
   - FAX
   - Notes

TACTICAL/LOGISTICAL SCENARIO #2.

Refer to Scenario #2 (page 7.15) and answer the questions.

C. Mission Priorities

1. How are mission priorities determined?

- Incident Commanders
- Air Operations Branch Director
- Air Tactical Group Supervisor
- Air Support Group Supervisor
- Operations Section Chief
- Helibase Manager
- Incident Action Plan
- ICS 220
- Tactical vs. logistical
- Efficient and effective use of resources
- Agency needs
- Flexibility

TACTICAL/LOGISTICAL SCENARIO #3.

Refer to Scenario #3 (page 7.17) and answer the questions.

2. Dealing with conflicting priorities:

- Identify the conflict.
- Communicate to the incident functions involved.
- Attempt to resolve.
- Discuss how adjustments to the plan can be made to accomplish changes in mission priorities.
- Elevate any conflicts that exceed your ability to resolve.

TACTICAL/LOGISTICAL SCENARIO #4.

Refer to Scenario #4 (page 7.19) and answer the questions.

D. Follow Established Ordering Procedures

1. Orders should go through chain of command.
2. Consider having resources available.
3. Elevate decision to the next level.

TACTICAL/LOGISTICAL SCENARIO #5.

Refer to Scenario #5 (page 7.21) and answer the questions.

E. Tracking Mission Request Orders

1. Maintain the Helibase Mission Request Log, HBM 8.

2. Constantly monitor and re-prioritize

3. Unfilled requests must be communicated back to the requester.

4. Document pertinent information on the Unit Log, ICS 214.

TACTICAL/LOGISTICAL SCENARIO #6.

Refer to Scenario #6 (page 7.23) and answer the questions.

F. Order/Communication Breakdown

1. Ensure order is delivered as timely as possible.

2. Follow up to find out where breakdown occurred.

3. Ensure that missions are documented on the Mission Request Log.

TACTICAL/LOGISTICAL SCENARIO #7.

Refer to Scenario #7 (page 7.25) and answer the questions.

II. COMMUNICATION

A. Effective Communication Components

What components are necessary for effective helibase operations?

1. Establish and maintain clear channels of communication.
2. Appropriate types and amount of equipment.
3. Adequate number of frequencies.
4. Correct frequency assignments.
5. Qualified aircraft base radio operator.
6. Qualified take off and landing coordinator.

TACTICAL/LOGISTICAL SCENARIO #8.

Refer to Scenario #8 (page 7.27) and answer the questions.

B. Utilizing Communication Components

How do you use these components?

1. Flight following
2. Receiving orders/mission requests
3. Sending messages
4. Coordinating the deck
5. Coordinating with the helispots
6. Contingency operations, back-up plans for loss of communications.

TACTICAL/LOGISTICAL SCENARIO #9.

Refer to Scenario #9 (page 7.29) and answer the questions.

C. Expanding Communication Requirements

How do you deal with expanding communication needs?

1. Short term:

- Human repeaters
- Other aircraft
- ATGS

2. Long term:

- Radio repeaters
- Relay links
- Order additional frequencies
- Order technical specialists

III. TIPS

- Order plenty of extra radio batteries.
- Use equipment helitack personnel may have brought to the incident.
- Cell phones may be a useful tool.
- Limit the channels scanned by helibase personnel.
- Obtain pre-assigned deck frequencies from communications unit leader.
- Use frequency guides to reference local unit frequencies.

EXERCISE: Tactical/Logistical Situation

You are the Helibase Manager on the Wildfire incident. This is day five of the incident and the time is 0645.

The incident has experienced a dramatic increase in size and complexity over the last two days.

The team is planning an aggressive tactical air operation to support ground crews in a push to secure Divisions I and L. The weather forecast will be much the same as yesterday.

There are two Type 3 and three Type 2 helicopters assigned to the helibase. There are four exclusive use and one CWN helicopters operating on the incident. There are adequate personnel assigned to the helibase at this time, but some crews have been out most of the summer and the fatigue factor is evident. All helibase positions are filled, but there is a lack of experience in some positions.

Objectives for the helibase today as outlined in the air operations summary are:

- Shuttle crews to Divisions F, I, L, 6 crews had to "coyote" at H-80 because of shutdown time on day four.
- Support line operations with water and retardant drops.
- Provide recon and IR mapping missions.
- Radio repeater maintenance.

You have just finished the pre-operational briefing and rotors are turning as a Type 3 prepares for a morning recon. The AOBD is calling you on the radio and you need to give a briefing to a new pilot.

Tactical/Logistical Scenario #1

The Division L supervisor has just placed a supply order through the helibase.

Questions:

1. Does the division supervisor have authority to place orders? How would you know?

2. Is this the proper place for these orders?

3. How should the helibase manager assist?

Tactical/Logistical Scenario #2

OPSC arrives during the morning crew shuttle and wants a recon flight for 5 IMT members and the Forest Supervisor.

Questions:

1. Does the person ordering this flight have the authority to do so?

2. Does the helibase manager have the authority to make this decision?

3. How would you prioritize this new request?

Tactical/Logistical Scenario #3

At 0730 the HESM on H51 advises you that there is garbage at the helispot which needs to be removed before the crew shuttle.

Questions:

1. What information will you need to handle this problem?

2. What options are available to alleviate this problem without completely disrupting the morning crew shuttle?

Tactical/Logistical Scenario #4

At 0900 the DIVS calls helibase to request a helicopter to transport two squads of a crew from H-91 to H-95 for a burnout operation.

Questions:

1. Is helibase the proper place for the DIVS to place this request?

2. Should the HELM send a helicopter immediately?

3. Who would the HELM contact to determine mission priorities?

Tactical/Logistical Scenario #5

You just received a phone call from the HELM of an adjacent incident. Their Type 1 helicopter has mechanical problems. The incident wants to borrow one of your Type 2 helicopters to move gear from one spike camp to another before nightfall.

Questions:

1. Can the HELM order directly from you?

2. Who can approve this mission request?

3. How would you coordinate the logistics of this mission? What information would you need to share with the other HELM?

Tactical/Logistical Scenario #6

At 1200 spike camp calls helibase to inquire about 100 cubitainers of water that were to been delivered at 0900 during the AM shuttle.

Questions:

1. Why hasn't the helibase delivered the cubitainers?

2. Do you feel this mission requires immediate attention?

3. How should the HEBM follow up?

Tactical/Logistical Scenario #7

The helibase radio operator has difficulty monitoring more than one radio and has very little fire experience.

Questions:

1. Can you continue the operational period with this radio operator?

2. What can you do immediately to remedy this situation? Are qualified radio operators available?

3. How could you best utilize this person?

Tactical/Logistical Scenario #8

To this point, the helibase has been operating on the air-to-ground frequency assigned to the incident. Incident interference has made it difficult for the DECK to maintain communications on the deck. After consulting the ASGS, you are asked to remedy the situation ASAP.

Questions:

1. Is this a minor inconvenience or a real problem?

2. Whom do you contact to resolve this problem?

3. What options do you have until another frequency can be assigned?

Tactical/Logistical Scenario #9

Helicopter 0EH is doing crew shuttles from H-51 to H-59. H-59 is a known radio dead spot, 0EH has not called in for 20 minutes. The last known location was on final for H-59.

Questions:

1. What methods will you use to establish contact with the helicopter?

2. If this turns out to be a non-emergency situation, how can communications with helibase and H-59 be established?

Helibase Manager, S-371

Unit 8 – Helibase Emergency Procedures

OBJECTIVES:

Upon completion of this unit, students will be able to:

1. Identify types of emergency situations that may be encountered.

2. Describe how to plan for and manage potential emergency situations.

3. Prepare a briefing for helibase personnel which addresses helibase and incident emergency procedures.

4. Given a simulated emergency, demonstrate the ability to coordinate an appropriate response.

I. INTRODUCTION

A. Importance of Helibase Emergency Procedures

- Few other courses address these topics.
- Few other topics are as important to commit to memory.

B. Be Prepared

In an emergency, if you must remind your personnel of what to do (or they need to read it or look it up), they are not well prepared to manage the situation.

- Performing well in an emergency situation can save lives.

- Being well prepared and doing a good job in an emergency situation reduces inherent feelings of guilt.

C. Types of Emergencies

There are two broad types of emergencies:

1. Emergencies that occur on the helibase.

2. Emergencies that occur off the helibase.

   Examples:

   - Downed or overdue aircraft

   - Aircraft in-flight emergency such as:

     – Chip light
     – Vibration
     – Hydraulics
     – Engine failure

- Aircraft fire or fire indicator light
- Aircraft fuel leak
- Pilot lost or disoriented in flight
- Serious injuries requiring helicopter evacuation
- Fuel spill at the helibase
- Hard landing

All helicopter emergencies will involve the helibase to some degree.

What have you learned concerning the management of these emergencies?

Are you adequately trained in emergency procedures and prepared to manage an emergency situation?

II. PREPARATION FOR HELIBASE EMERGENCIES

A. Emergency Management Preparation

- Plans are posted and reviewed.
- Personnel are briefed daily and know their assignments.
- Medical personnel are on base (briefed, flight ready, manifested).
- Helitack is assigned to assist medical personnel.
- Evacuation, extrication, and medical kits (weighed, manifested).

- Medevac aircraft and crew are ready on five minutes notice.
- Load calculations are prepared for medevac and crash rescue scenarios.
- Pilots have adequate information to complete the mission safely.
- Crash rescue truck and personnel are briefed and ready.

B. Information Gathering

What information must you gather in order to plan your emergency procedures?

- Does the unit have an aircraft crash rescue plan or hazard map?
- What procedures for medical evacuation are already in use at the incident area?
- Hospitals:
  - Local hospitals
  - Capabilities (emergency room, burn unit, trauma unit, air transport capabilities)
  - Location
  - Physical description
  - Phone numbers
  - Helipad?
  - Helicopter capabilities
  - Frequencies
  - Transport time by air/ground

- Local ambulance providers:

  – Location
  – Dispatch time
  – Phone numbers
  – Medical capabilities (basic or advanced life support)
  – Numbers of units

- Other air ambulance capabilities in the region:

  – Local military medevac units
  – Location
  – Distance
  – Phone numbers
  – Activation procedures

- Local fire departments that could respond to an aircraft crash rescue situation.

  – You may wish to request that a contract be initiated to have them provide an engine at the helibase.

- The above information can be recorded on the Helibase Emergency Rescue Plan.

C. Information Sources

Where can the helibase manager obtain this information?

- By calling local hospitals and medical providers.

- The local area dispatch should have a downed aircraft pre-accident plan which will contain some of the information.

- The internet

D. Information Gathering Tips

1. Always try to obtain the following prior to arrival at the incident:

   - Phone books
   - Hospital information
   - Hazard maps
   - Forest or state maps
   - Ambulance or air ambulance providers

   These items may not be available at the incident.

2. If time permits while en route to the incident or while in staging or waiting at the airport, call local hospitals for information.

3. Obtain physical descriptions of the hospitals:

   - Their location
   - Helicopter landing pad?
   - Pad size
   - Frequencies used
   - Aircraft assigned
   - Burn unit?
   - Trauma center?
   - Alternate landing sites

E. Medical Evacuation Plans

Review the Medical Plan in the Day 5 IAP (ICS-206) for medevac instructions.

- Does it mention the helibase?
- Does it address air evacuation?
- Do you have skills/personnel to contribute?

Note: Review your crew information sheets.

Since many incidents are in remote areas with poor road access, a request for medical evacuation by air should be expected.

EXERCISE: Helibase Emergency Rescue Plan

Refer to the blank Helibase Emergency Rescue Plan (page 8.21). Each group will develop an Emergency Rescue Plan for the helibase display board.

You may use the Medical Plan ICS 206 of the Day 5 IAP, the Helicopter Information Sheets, and the Helicopter Crew Information Sheets that were presented in Unit 6.

F. Coordination with the Medical Unit Leader

1. Helibase medevac goals

- To provide a rapid response of medical/rescue personnel if required.

- To reduce confusion or risk when responding.

  In order to reduce confusion and risk, it is necessary to train and manifest all non-helitack medical personnel prior to the request to respond.

- To reduce patient transport time during the "Golden Hour."

  The "Golden Hour" is the first hour after an injury, when survival chances are greatest if medical attention is received.

2. Coordination with the Medical Unit Leader

Given the expectation of a request for air transport of injured parties and the previously stated goals, it is wise to:

- Request a paramedic and EMT from the medical unit be permanently stationed at the helibase in order to reduce dispatch time and to provide time to train them.

- Request that an ambulance be stationed at the helibase or within ten minutes of travel time from the helibase.

- Assign helitack to work with each medical person assigned to the helibase. The helitack person's job is to keep the non-helitack trained medic and medevac operation safe.

- Ensure the medical personnel are flight ready, briefed, and manifested.

- Weigh and manifest all medical, extrication, or transportation gear.

EXERCISE: Helibase Crash Rescue Plan

For this exercise, refer to your completed Helibase Emergency Rescue Plan. Use the crash rescue plan checklist (exhibit 12-1 in the IHOG) and the medical plan from Day 5 IAP to develop a Crash Rescue Plan for your helibase. Use a blank sheet of paper. The product should be in a form that can be used as a briefing tool to be posted at the helibase.

III. PREPARING THE BASE AND PERSONNEL TO MANAGE AN EMERGENCY

A. Emergency Procedure Briefings

1. At the morning briefing, discuss emergency procedures and assign/review personnel assignments. This should be repeated daily as personnel and their duties change.

2. Have personnel in critical positions repeat their instructions to you at the second day's briefing.

3. Ensure a separate briefing is delivered for medical personnel concerning the medevac aircraft and procedures.

   This should include:

   - Standard passenger briefing

   - Pilot briefing on aircraft specifics

   - Helitack briefing on what to do and when

4. Readiness

Proper PPE is a must at all times.

- Full fire resistant clothing
- Gloves
- Flight helmet or hard hat
- Boots
- Radio with helmet adapter cord

During an emergency there is little time to grab gear that isn't on your person. There is only time to put on your gloves, extend your collar, and ensure your shirt is tucked in.

5. Ensure all crash rescue personnel have received a briefing specifically addressing their job.

This should include:

- Dispatch procedures and when to move.
- Aircraft hazards
- What to do, when, and proper positioning.
- Pilot briefing on aircraft specifics, doors, emergency access, pull pins, etc.
- Protect the people, keep water between them and any fire
- Never leave the nozzle, even when no fire is apparent. Stay ready while the helitack remove passengers.

Debrief after every situation as soon as possible, and learn from the experience.

B. Types of Crash/Rescue Equipment

- Crash Rescue Kit (tools)
- Evacuation kit (stokes litter, S.K.E.D.)
- Fire extinguishers
- Crash/rescue truck/engine using AFFF foam.

C. Staged Equipment

Rescue and medical equipment must be:

- Flight ready
- Weighed
- Manifested
- Secured
- Available
- PPE for patient transport

D. Pre-established Load Calculations and Manifests

1. Manifest

   - Medical Personnel
   - Helitack
   - Expected patients and pre-established estimated weights
   - Equipment

2. Load calculations prepared for:

- Worst case scenarios.
- For fuel loads needed to get to hospital or alternate landing site.
- Adequate for possible medevac locations and altitudes.

E. Proper Positioning

1. Engine

- Approach from upwind; circle around if needed.
- Stop well outside the rotor arc.

2. Nozzle person

- Remain outside the rotor arc until the rotor stops.
- Don’t leave the nozzle; even with no fire – stand ready.
- Protect personnel from fire.
- Establish procedures for extinguishing fire when passenger safety is secured.

3. Helitack personnel

- Assist or remove passengers from the aircraft
- Keep passengers away from hazards
- Leave packs and cargo

IV. EMERGENCY PROCEDURES

A. Responding to an In-Flight Emergency Situation

1. Clear the deck.
2. Move non-helitack personnel well away from the deck.
3. Assign helitack to stay with non-helibase personnel.
4. Launch the ready alert medevac aircraft and crash rescue team with their equipment to locate and follow the distressed aircraft.
5. Prepare base personnel and crash rescue equipment.
6. Notify AOBD or ASGS.
7. Request an ambulance if one is not stationed on base.
8. Maintain flight following for all base aircraft (don't forget them).
9. Clear the primary air frequency for the emergency. Have other aircraft switch to the alternate frequency.

B. Responding to an Overdue or Downed Aircraft Situation

1. Launch the medevac aircraft and crash rescue team with extrication/transportation equipment.

2. Notify the AOBD or ASGS immediately.

3. The crash rescue team will attempt to locate the crash and land as close as possible. Additional aircraft may be utilized. Tune an aircraft radio to 121.5mhz and attempt to determine if an ELT is active.

4. Upon finding the crash site the team will provide first aid for the pilot, crew, and passengers as first priority. Do not move the injured unless necessary to prevent further injury.

5. The senior medical person (usually a paramedic) is in charge at the scene for all decisions affecting patient care or extrication/ transportation of the injured.

6. The senior medical person (usually a paramedic) will communicate with MEDL on the command channel to coordinate or request additional resources or a life flight helicopter.

7. Flight following for non involved aircraft must continue throughout the emergency and until all aircraft have returned to base.

8. If needed, clear the command frequency for the emergency. Have other aircraft switch to the alternate frequency.

9. It is important that the MEDL, COML, and air operations personnel know and follow the communication plan.

10. Protect the accident scene.

C. Responding to a Medevac Request

The medical evacuation form in the IAP should make it clear who initiates a request for medevac and how a request is initiated.

1. Launch the medevac aircraft and medical team with first aid and transportation equipment.

2. Land as close as possible to the patient(s).

3. Prepare your second team and aircraft.

4. Evaluate the patient, provide first aid, and prepare for transport.

5. The senior medical person (usually a paramedic) is in charge at the scene for all decisions affecting patient care or extrication/ transportation of the injured.

6. The senior medical person will communicate with MEDL on the command channel to coordinate or request additional resources or a life flight helicopter.

7. The command frequency may need to be cleared during the emergency.

8. If the patient is to be carried out by litter request the appropriate resources, perhaps one or more crews, to assist. This is especially important in rough terrain.

9. Flight following for non involved aircraft must continue throughout the emergency and until all aircraft have returned to base.

10. Notify the AOBD or ASGS as soon after receiving the request as you reasonably can.

D. Responding to an Aircraft Engine Fire Situation

1. Protect or assist the pilot and passengers as first priority. Fire suppression is secondary.

2. If the pilot is in the aircraft stand by until they have exhausted all on-board capabilities.

3. If the pilot exits the aircraft (and the aircraft is on fire) attempt to suppress the fire with extinguishers.

4. If Halon is unavailable, use other types of extinguishers.

5. In addition to the extinguishers use the crash rescue engine (foam and water).

6. Notify the local fire department or contact communications and request assistance.

7. Notify the AOBD or ASGS.

8. Flight following must continue throughout the emergency.

The use of non-halon fire extinguishers, foam or water, will result in the loss of an aircraft engine costing many thousands of dollars.

This is only done after the pilot/crew abandon the aircraft or request assistance, and only as an attempt to save the aircraft at the cost of an engine.

E. Responding to a Fuel Spill Situation

1. Preparation

2. Procedures

- Provide first aid
- Decontaminate people as needed
- Contain the spill
  - Dike it
  - Use absorbent materials
- Notify AOBD/ASGS
- Begin clean-up
  - Garbage cans with liners
  - Shovels

F. Overview

- Emergency procedures must be known.
- There is not time to look them up during a crisis.
- The key to performing well in an emergency is preparation and practice, practice, practice…

EXERCISE: Helibase Briefings

Each group will prepare one of the following briefings to present to the class:

- Helibase emergency procedures.
- Briefing for non helitack medical personnel.
- Briefing for the crash rescue engine crew.

EXERCISE: Unit Log

Complete an ICS 214 for this unit and hand it in to your coach/mentor.

HELIBASE EMERGENCY RESCUE PLAN

HELIBASE: _____ **INCIDENT/PROJECT:** _____ **DATE:** ___ /___ /___

In the event of an injury, either incident-related or aircraft-mishap-related, fast and efficient medical evacuation procedures must be immediately initiated. Safety will be of primary concern during medivac.

At least one helicopter must be designated each day to be available for medivac operations. A secondary helicopter should be designated in the event the primary is involved in an accident or otherwise unavailable. If a hospital or military facility has helicopter medivac capability, the use of these aircraft should be strongly considered for transport of injured personnel to medical facilities.

A minimum of _____ Emergency Medical Technician(s) will be assigned to Helicopter Medivac Operations.

Use the Emergency Medical Services - Helicopter Ambulance Request sheet to obtain injury and site information for unknown locations. Information below should be updated as aircraft availability changes.

FAA N#	HELICOPTER MANAGER	PAX SEATS	LITTER/RAPPEL/EXTRACTION/ SHORT-HAUL CAPABLE?	REMARKS (Medical Equipment On Board or Assigned, etc.)

NEAREST MEDICAL FACILITY:	GEOGRAPHIC LOCATION	LATITUDE	LONGITUDE	VOR	NM	DEG	EST FT	CONTACT FREQ	REMARKS (Landing Site, etc.)
NEAREST BURN CENTER:									

HELICOPTER LIFEFLIGHT FACILITY LOCATED AT	TYPE AIRCRAFT	PHONE NUMBER	OPERATING FREQUENCY(IES)	REMARKS

Emergency Exit from Medium Helicopters

Information about exiting from wide bodied helicopters raises some interesting points. Most medium helicopters are 7.5’ to 8’ wide.

Consider a crash where the aircraft comes to rest on its side. The emergency exit is now 7.5’ plus from the ground, and rear passengers are suspended sideways, trying to get out of the machine.

Of 71 crashes in Canada (of medium type 204, 205, and 212), 25.3% (18) came to rest on their side; and 22.2% (4) experienced post crash fires.

Recommendations to help prevent injury or death in this type of crash:

- Know how all emergency exits work and their location on the helicopter.
- During the crew or passenger briefing, explain how to exit the A/C under these conditions, and where the exits are.
- Pick out the tallest person and give them more detailed instructions on how to avoid panic and how to help the other passengers exit from the helicopter.
- Make sure that the pilot is aware of your concerns and who is selected to help the passengers exit in an emergency.
- If helitack are aboard the A/C, then make sure they know the procedures. Do not take it for granted that the helitack know.
- If possible, check to ensure that the screws holding the emergency exit handle covers are all the proper type. The wrong type could cause removal of the covers to require more force than normal.

Passenger Briefings

A tedious requirement or a potential life saver? How many of us are guilty of the following:

> On rollout, the flight attendant begins the briefing. We casually raise one eye, yawn, and continue to read the Wall Street Journal. During the course of an active fire season, aircraft managers are asked to brief countless thousands of passengers.

Many of us who give briefings (and those receiving them), share one common thing – indifference! The dominant thought during the briefings is "how many times do I have to go through this?" When this thought prevails, the briefing becomes a routine chore. Perhaps if we have a better understanding of briefings we'll be able to put our hearts back in to it.

Let's first identify why we brief passengers prior to their flight. True, it is a requirement, but more important is to increase the odds of occupant survivability during an aircraft crash.

There are four primary requirements that an aircraft must meet for occupant crash survival. These requirements are: (1) the structure must maintain a livable volume; (2) must keep the occupant's crash loads within human non-injury tolerances; (3) restrain the occupant, and (4) provide the means and time for escape.

A recent FAA civil helicopter crash study indicated that the six most serious crash hazards are: (1) post crash fires; (2) excessive deceleration loads; (3) unusual aircraft impact conditions due to wire strikes; (4) occupant restraint problems/ clearances; (5) lack of available shoulder harnesses (allowing striking of the structure), and (6) injuries that prevented escape.

Let's look at how many of the four survivability requirements and the six crash hazards we can address in a normal passenger briefing.

Primary Requirement/Hazard	Briefing Element
1. Maintain a livable volume	None
2. Keep crash loads within tolerance	Proper use of flight helmets. Assume proper crash position.
3. Restrain the occupant	Proper use of lap/shoulder belts. Assume proper crash position (extremely important when only lap belts are available).
4. Provide means/time for escape	Proper use of restraints. Use of door latches and emergency exits (which side is down, how to exit).
5. Post crash fires	Proper use of Nomex clothing. In flight smoking policy. Location of fire extinguishers. Include elements of #4.
6. Excessive deceleration loads	Include elements of #2.
7. Impact conditions from wire strike	Passengers are another set of eyes. Look for aerial hazards.
8. Occupant restraint problems	Include elements of #3.
9. Injuries that prevented escape	Include elements of #4.

As you can see, we don't address all of the primary requirements and crash hazards during a passenger briefing, but we do cover a great deal.

The next time you are asked to give a briefing, assume that your passengers have never heard one before. You know that is not always the case, but you can't be sure the briefing they received two days ago was as thorough as the one you are about to give. When finished, you should feel good in knowing that you have done what you can to increase the survivability odds of your passengers.

If you are on the receiving end, please pay close attention and be patient. You may have been through it a hundred times, but each aircraft is unique. Doors open differently, restraint systems aren't the same, and fire extinguishers are in different locations. If the briefing doesn't cover such things as fire extinguisher location, how to open doors, etc., then ask. It is in your best interest to do so.

Hopefully this short message has reinforced the reasons for briefings. Keep in mind that passenger briefings may be tedious, monotonous, boring, etc. The bottom line is they have the potential to prevent serious injury and to save lives.

Training to Standards is the Key to Reducing Human Error

Major reasons for human error:

• Standards are not clear, practical, or do not exist.	Management failure
• Standards exist but are not known or ways to achieve them are not known.	Training failure
• Standards are known but are not enforced.	Leader failure
• Standards are known but are not followed.	Individual failure

Quality training is top priority. Quality training produces disciplined and highly motivated personnel, and it bonds individuals through shared experiences and mutual challenges.

Safe performance is a predictable result of performing to standard, and performing to standard is a result of training to standard. Training to standard leads directly to discipline – both collectively and individually, and disciplined individuals and operations are inherently safe.

Human error is a definite cause in more than 80 percent of all accidents – air and ground. The human error problem is not unique to Interagency. Human error is also the single largest cause of accidents for our sister agencies, our military, and commercial aviation. Future reductions in accident losses will be directly related to reducing human errors with accident-causing potential.

Accident experience shows that human error accidents are frequently clear indicators of training weaknesses. The same training weaknesses would quickly deplete an agency's capability to fight a fire. The root cause of the problem is failure to train to standard or to the right standard. The solution lies in integrating safety into our training and operation processes.

On a large portion of human error-related accidents, the error causing the accident can usually be tied in some way to a failure to train to standard or to enforce the standards. This is true Forest Service-wide (in air and ground operations). Too many people misunderstand the term "human error."

For example, when an aircraft accident investigation team lists human error as a cause factor, it doesn't necessarily mean that someone went out and did something to intentionally cause the crash.

Human error means the aircraft crashed because an individual made a performance error. The individual did something wrong or failed to do something correctly that caused the crash. The reason for the performance error, however, could be lack of training, lack of established standards, or failure to follow standards.

The point is, when standards are not clear or practical or do not exist, and the individual makes an error, that error is the result of management failure – failure to establish standards. If standards exist, but are not known or ways to achieve them are not known, and the individual causes an accident because they do not know the standards, we have a training failure.

When standards exist and are known, but leaders fail to enforce them, human error is the result of leader failure. When standards are known, but are not followed – when individuals fail to perform to established and enforced performance standards – then we have individual failure.

Helibase Manager, S-371

Unit 9 – Overview of Military Aviation Operations

OBJECTIVE:

Upon completion of this unit, students will be able to:

- Identify and discuss methods for the integration and coordination of military aviation operations with daily helibase operations.

I. MILITARY VS. CIVILIAN HELICOPTER OPERATIONS

A. Situations that May Require Military Aircraft

1. Outstanding resource orders for aircraft nationally.

2. Political deployment in order to meet national planning levels.

3. Supplement fleet to release civilian aircraft for other/higher priority.

B. Military vs. Civilian Aircraft/Crews/Operations

1. National guard vs. active military/reserve

   - National guard can be deployed through state agreement.
   - Active military/active reserve needs to be activated through pre-established national channels and agreements.
   - Different levels of knowledge.

2. Allocation and use

3. Agency positions vs. military positions

4. Military vs. civilian aircraft

   - Configuration
   - Markings and paint schemes

     Military aircraft is painted/marked for low visibility.

   - Interaction

     Military tend to fly low-level, treetop level due to survivability in combat.

   - Radios and equipment

     Language and frequencies often not common.

5. Military vs. civilian crews

   - Internal organizational structure – rank vs. ICS position – military based on rank whereas civilian leans towards knowledge, skills, and abilities.
   - Flight crew size (military much larger, generally)
   - Duty limitations

     – It is required to keep a record of all military flight time.

   - Performance and capabilities
   - Interaction

     Helibase Manager must be proactive in recognizing attitudes that may be negative towards military; for example, civilian pilots worried about loss of money, competition, airspace conflict.

6. Military vs. civilian helicopter operations

   - Terminology
     - Government acronyms
   - Actual helibase operations
     - Involve military personnel in your briefings/ debriefings
     - PPE
   - Fueling
     - Government generally provides fuel for military.
     - They provide their own fueling personnel.
     - Helibase Manager should consider hazardous materials concerns.
   - Load calculations vs. Performance Planning Cards (PPC)

7. Categories of use

   - Bucket only
   - Crew shuttle only
   - Medevac

8. Command and control helicopters

9. Training and qualifications

C. Combining Efforts

How do you work together with these differences?

1. Establish and maintain open lines of communication; work with the military helicopter manager assigned.

2. Knowledge of operational procedures needed to facilitate military/civilian air operations

   - Logistics
   - Facilities

3. Brief all personnel on any necessary operational adjustments needed to maintain safe military/civilian operations.

4. If possible include military personnel in briefings.

II. HAZARDS WITH MILITARY HELICOPTER OPERATIONS

- Low rotors - Blackhawk
- Rotor wash - Chinooks
- Major static - Chinooks
- JP5 - gas/kerosene mix

EXERCISE: Demobilization/Military Use, Part 1

Read the scenario then use information from the Day 5 IAP (and other information and tools available) to answer the questions.

Scenario:
Due to changing national priorities, the wildfire incident will need to release several helicopters. These helicopters will be replaced by military helicopters.

You will need to release the following helicopters and their assigned personnel:

2 - Type 2 helicopters
1 - Type 3 helicopter

In their place you will receive:

1 - CH-47
2 - UH-60 Blackhawks
50 - Personnel and equipment
2 - Military tractor trailers
2 - Hemets (military fuel carrier)
1 - 3000 gallon military fuel tender

1. Which helicopters will you release and why?

2. What, if anything, will you as the helibase manager need to do to prepare for utilization of military helicopters?

EXERCISE: Demobilization/Military Use, Part 2

Prepare an ICS 214 for this unit based on changes caused by the introduction of military aircraft.

Helibase Manager, S-371

Unit 10 – Final Group Exercise: Buster Fire

OBJECTIVES:

Upon completion of this unit, students will be able to:

1. As a member of your assigned group, provide input for answers to exercise questions.

2. During the exercise make decisions as a helibase manager.

3. Given different situations, describe how you as “helibase manager” would resolve and take care of the situation.

Instructions:

In your assigned groups, read the scenarios and answer the questions. After completion of each scenario, groups will present their answers to the class.

Scenario 1:

Day 1: You have been assigned as the HEB2 on an emerging fire in Nevada. You are to fly to Las Vegas, get a rental vehicle and drive to the fire. You arrive in Las Vegas at approximately 0900 and notice that the resource order for you states that the fire location is the "Parsnip Peak Area." You were given a facsimile of the resource order and the only legible items are the fire name, fire number, location and a contact number. You dial the telephone number on the resource order and a lady answers the phone saying that you have reached Ely Interagency Dispatch.

1. What are at least three pieces of information you need to get in order to proceed?

Scenario 2:

It takes you over five hours to drive to the location described to you by Ely dispatch. You arrive at a Nevada State Parks compound where there are a number of fire vehicles and firefighters. The column from the fire is readily visible and you estimate the fire at roughly 10 miles from the compound. While driving there, you see several other smoke columns in the area.

2. What are at least three things you should do next?

Scenario 3:

The ICT3 tells you that the helibase is located in a small pasture adjacent to the ICP. Looking out the window you see a truck filled with Jet-A right next to the building that you are in.

3. Once you find the HCWN, what information can you get?

Scenario 4:

After reviewing the helibase, you decide that the current location is too close to camp and that no more than a single T3 helicopter could operate here. You want to find a new site for the helibase before the other helicopters arrive.

4. List five things to consider when selecting a site for a helibase.

Scenario 5:

The ICT3 suggests that you take a look at a large pasture about halfway between the ICP and fire. He drives to the site with you and a DIVS. They say that they were told that it's OK with one of the landowners if you use this site. The pasture appears to be flat terrain with tall green grass that is big enough to accommodate light helicopters, the medium helicopter, and possibly a second medium if needed. There is a single gate off of the main road to access the pasture. Also, there is a small creek running through the pasture that has kept the grass green. They agree to name this site "Two Track."

5. List one "pro" and one "con" for using this site.

6. Should you use this site?

7. List three people that you may want to consult in helibase site selection.

Scenario 6:

The ICT3 is insistent that you move the base to the Two Track site and begin operating there as quickly as possible because the current helibase location is needed to stage crews and equipment that are already beginning to show up and are clogging up the road by the ICP. He assures you that one of the landowners said it is OK to be there. You decide that verbal permission is a good start and move the base to the new site just as the Exclusive use Type 3 helicopter shows up.

8. Is this the right decision?

9. Do you direct the Exclusive use helicopter to the new site or the old site?

Scenario 7:

The rest of the day proceeds smoothly with both helicopters doing recon missions and supporting the ground crews with bucket drops. About 15 minutes before legal sunset the ICT3 calls on the radio and says he will be at the base in half an hour and wants an extensive recon and mapping of the 500-acre fire.

10. Do you accept this mission? Why or why not? What should your response be?

11. After both of the helicopters are on the ground for the night, what are three tasks do you need to accomplish?

Scenario 8:

Day 2: The following morning you are attending (with both helicopter managers) the AM briefing when you get a radio call from someone on one of the helicopter crews. The HECM tells you that one of the landowners has just arrived at the helibase and wants to know, "just what the hell you're doing on my land." The HECM is obviously nervous and wants to know what to do.

12. What should you do?

    a. Meet with the landowners to calm the situation.

    b. Conduct the base operations briefing and get going for the day and ignore the landowner.

    c. Call law enforcement ..."lock and load."

    d. None of the above.

Scenario 9:

Read the scenario, answer the question, and complete a helibase layout on the Dry Creek map.

The landowner insists you be off the land immediately and then drives off saying you'd better be gone by the time he gets back. One of the employees at the State Parks office suggests that the base be moved to a large pasture directly across the road from the ICP. He tells you the land belongs to the State Parks and is leased to a local rancher for grazing. He shows you a lands map of the area and the land is definitely State Parks land.

An inspection of the site reveals that it would make for a good helibase: large flat pasture, close to ICP, green grass for dust abatement, good access from the road, etc. By the time you review the new site, both helicopters are in the air doing bucket work to support crews. It is agreed that this site will be called "Dry Creek."

The Exclusive Use helicopter has been flying for almost an hour and a half, but the CWN helicopter has only been flying for half an hour due to a minor problem found during preflight. The order for the T2 helicopter has not yet been filled as the T2 CWN is still assigned to a nearby fire and there is no word when it will be released.

13. What would be a good way or order to move the base? All at once, bit by bit, helicopter by helicopter?

Scenario 10:

Day 3: Before the morning briefing at the ICP, the CWN manager approaches you and tells you that during the night a small number of cattle got into the pasture with the helicopters and damaged the helicopter. The CWN module (4 people) spent the night staying awake to keep the cattle from further damaging the helicopters.

Only the HCWN has not exceeded the work to rest ratio. The module from the exclusive use helicopter (10 people) has only one person who exceeded the work-rest ratio. The damage to the helicopter includes a pushed in window, two bent radio antennas on the tail boom and a bent convex mirror bracket. The pilot of the aircraft is very angry and is currently on the phone to the helicopter company. He is not sure when or if the helicopter will be able to fly today.

At the fire camp briefing the ICT3 springs a change in plans from the previous night's planning meeting. He wants to use both helicopters to transport a crew to a division on the fire that has previously not been staffed and spike them out for the night. He also wants a recon flight of that division with his OPSC, the DIVS for that division and the crew boss for the crew going into that area.

Two local resource advisors also want a flight to recon the fire to prepare for the arrival of a local BAER team. About this time, another DIVS calls the ICP and requests a helicopter for some bucket work on his division.

The communications unit leader then announces that he'll need a flight soon to replace the batteries in a temporary repeater assigned to the fire.

14. List at least five considerations or items that need to be addressed at this point, either with the ICT3 or the HCWN.

Scenario 11:

The ICT3 tells you that the priorities for the flights are as follows: Bucket work first, then the recon with the OPSC, then the crew shuttle, then the resource advisor flight (with the understanding the bucket missions would take priority). After being hard pressed, the radio technician admits that he can drive to a place close to the repeater and hike less than a mile to it. About three hours later the HCWN tells you that the helicopter has been fixed and can start flying missions.

15. Do you let the CWN start flying?

Scenario 12:

You decide to get the CWN into the mix and help finish the crew shuttle. Operations on the fire run smoothly for the remainder of the morning, the crew shuttle is completed and the various recon flights get done. By early afternoon, the helicopters are back doing bucket work. At the end of a fuel cycle, the Exclusive Use helicopter comes back in for fuel and you overhear the pilot telling the HCWN that he hasn't seen any smoke or flame in the area that he's been working on for quite a while, but the DIVS wants him to come back. The pilot says that there is plenty of work for him out on the fire but not on the division he just came from. A couple of the other DIVS out on the fire are currently requesting helicopter support.

16. How could you handle this situation? Describe a possible course of action.

Scenario 13:

That afternoon, you get a radio call from the ICT3 requesting that you come up to the ICP. When you get there, you see the IC talking with a representative from the State Park Service and what appears to be a very angry rancher. It turns out that the rancher is upset that there is a helibase set up on land that he is leasing for grazing. He wants the helicopters out of there so that he can move cattle in from an adjoining pasture (the pasture where the helicopter-damaging cattle came from). The ICT3 then informs you that you will once again need to find a suitable site for a new helibase, and that the Type 2 helicopter that had been on order for the last two days will be here sometime before legal sunset. There will also be a BV-107 (Type 1) assigned to this fire because it is being released from another district fire but the fire management team wants to hang onto it.

17. List at least two questions that you would ask the ICT3, the local resource advisor, and/or the local dispatch.

18. Now that there are four helicopters on this incident, what main point needs to be brought to the attention of the ICT3 and the local dispatch office?