

INTERAGENCY HELICOPTER OPERATIONS GUIDE
Chapter 15 - Helibase and Helispot Management and Operations

CHAPTER 15: HELIBASE AND HELISPOT MANAGEMENT AND OPERATIONS.

- I. **Introduction.** To achieve the maximum degree of safety and efficiency in helispot and helibase operations, personnel must be able to anticipate current and future needs, plan effectively to meet those needs, supervise and monitor the operation, and take timely corrective action in response to problems encountered.

Most of the preceding sections of the Interagency Helicopter Operations Guide discuss specific methods, procedures, and tasks which, if performed safely and effectively, will contribute to the success of helibase and helispot operations.

Helibase complexity can range from a simple, single-helicopter operation to a complex multiple-helicopter one, with as many as 10-20 aircraft working from an airport or large field. Helispot complexity can range from a location with limited use to a location servicing considerable personnel and/or cargo transport missions.



IMPORTANT NOTE: The questions are often asked, "When does an unimproved landing site become a helispot, and when does a helispot become a helibase?"

An unimproved landing site becomes a helispot when it will be utilized on a recurring basis for the purposes of transporting personnel and/or cargo to or from the site. It should then be managed, improved to the extent necessary, and supplied with the equipment outlined in Chapter 8.

To determine when a helispot should be managed as a helibase, use the following criteria:

For incidents, a landing site should have required helibase management and controls implemented (helibase positions filled, completion of checklists and mandatory forms, etc.) when two or more helicopters are assigned to or based at the location for more than one day. Prudent management and safety concerns should naturally dictate that when several helicopters arrive at a helibase on the first day, helibase management procedures and requirements should be initiated.

For projects, a landing site should have required helibase management and controls implemented when two or more helicopters are assigned to that location, regardless of the length of the project.

These criteria are for the purpose of determining when a higher level of management and control should be exercised, and are separate from the physical attributes that define a helibase (for example, road access, etc.)

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Helibases and helispots are utilized for both incident and project missions. There is little or no difference between the helispot serving as a landing area for wildlife biologists and the one being utilized to transport crews and supplies to the fireline.

Similarly, the helibase that serves as the aerial transportation focal point for a 50,000 acre fire could also have functioned as the helibase for the 200,000-acre aerial seeding project the year previous. Requirements for good planning and emphasis on safety and efficiency in operations remain the same.

Regardless of the size or complexity of an operation, there are sequential and logical steps which must be taken to achieve a safe, efficient operation and accomplish incident or project objectives. Items such as site selection, set-up and layout, operational phases, and demobilization must be considered from the onset of any helibase operation in order to be completely successful. The versatility of helicopters employed in natural resource operations, coupled with the wide variety of missions, adds to the complexity of helibase and helispot management.

The need to be flexible, as well as to anticipate and plan for most reasonable occurrences and contingencies, cannot be overemphasized.

Prior to reading this chapter, the user may find it valuable to review the duties and responsibilities of both helicopter and helibase management positions (see Chapter 2). Useful tools that the Helibase Manager and subordinate positions can utilize effectively to plan and conduct operations include the:

- # Daily Helicopter Operations Briefing/Debriefing Checklist (see Appendix F)
- # Helibase Manager's Reminders List (see Appendix H)
- # Aviation Publication And Helicopter Operations Ordering List (see Appendix K)

It is also essential that the Helibase Manager review both Appendix A, Helicopter Management Forms and Checklists, and Appendix B, Helibase Management Forms and Checklists. Appendix B is closely tied to the helibase planning and operational procedures and requirements discussed in this chapter. Many of the forms discussed in Appendix A are relevant to helibase operations (that is, they may supply necessary information to the completion of helibase management forms).

- II. **Coordination with Project Aviation Manager or Air Support Group Supervisor and Air Operations Branch Director.** Coordination, communication, and cooperation with these functions is essential to the success of helibase operations.

Correct and timely identification of problems encountered, along with corrective action already taken or to be taken, will do much to gain the support of supervisory air operations personnel. This process is a two-way street. If the Helibase Manager is not getting timely or correct information from supervisors, then this problem must be quickly identified. Chart 15-1 outlines essential areas of coordination among air operations staff and other incident or project personnel.

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Chart 15-1: Communication and Coordination Considerations - Helibase Manager To/From Air Support Group Supervisor /Air Operations Branch Director Or Project Aviation Manager

HELIBASE MANAGER TO THE AIR SUPPORT GROUP SUPERVISOR/AIR OPERATIONS BRANCH DIRECTOR OR PROJECT AVIATION MANAGER	AIR SUPPORT GROUP SUPERVISOR/ AIR OPERATIONS BRANCH DIRECTOR OR PROJECT AVIATION MANAGER TO THE HELIBASE MANAGER
If required on incidents, provide updated Form HBM-6, Helicopter Resource Planning Capability Chart, daily, prior to morning Strategy Meeting.	If possible prior to nightly debriefing, provide next day's Project or Incident Plan, or, at minimum, the ICS-220 Air Operations Summary
If required, provide updated Form HBM-3, Helibase Aircraft Information Summary, showing helicopter resources available.	Inform the Helibase Manager of all changes in strategy and operational plans immediately.
Provide HBM-10, Helibase Daily Use and Cost Summary, at the end of each operational period.	Inform the Helibase Manager of all changes in radio frequencies immediately.
Provide Form HBM-13, Helicopter Demobilization Information Sheet, prior to release of non-local aircraft.	If possible, attend morning briefings and nightly debriefings at the helibase, providing positive and constructive feedback on both missions performed well and areas that need improvement.
Complete the Daily Helicopter Operations Briefing/Debriefing Checklist (Appendix F) each morning prior to the start of operations. Conduct the debriefing at the end of the period. Provide timely feedback to supervisor.	Assist in identification of helibase and/or helispot location(s) and arrangements for use and construction.
Receive and respond to special requests for logistical and tactical missions.	Keep Helibase Manager posted on status of Temporary Flight Restriction and military training areas (SUA and MTR's).
Inform supervisory personnel of: # Needs for additional helicopters, personnel, equipment, and supplies # Delays (eg, maintenance) and Pilot flight time/duty day limitations # All incidents, hazards, and accidents # Critical debriefing items that need their attention # Excess aircraft, personnel, equipment or supplies.	Facilitate the provision of logistical support needs at the helibase. Ensure that special requests for logistical and tactical missions are relayed to the helibase immediately.
	Implement an effective ordering process for requests that is made clear to all project or incident personnel.
	Request current status of Pilot flight time/duty day limitations prior to agreeing to operational plans for the current and tomorrow's operational period.

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- III. **Helibase Briefing/Debriefing.** The importance of providing complete briefings for all vendor and government helibase/helispot personnel prior to the start of operations, as well as debriefings at the end of an operational period, cannot be overemphasized.

Two of the best tools available to the Helibase Manager in planning and monitoring all operations are the Helibase Manager's Reminders List and the Daily Helicopter Operations Briefing/Debriefing Checklist. These are the primary management tools and job aids of the Helibase Manager. A complete review of all items will greatly promote the safety and efficiency of helibase/helispot operations. It should be remembered, however, that completion of forms and checklists do not replace good management techniques and personal communications.

- A. **Daily Helicopter Operations Briefing/Debriefing Checklist.** Refer to Appendix F. The Daily Helicopter Operations Briefing/Debriefing Checklist is designed to enable the Helibase Manager to conduct comprehensive briefings and debriefings. Major areas covered are Organization and Personnel, Communications, Landing Areas, Safety, Operations, and Administration.



NOTE: Daily Helicopter Operations Briefing Board Checklist is available from the Redmond Fire Center Cache. Use of this board does not eliminate the need to complete forms associated with the board.

The Debriefing section covers major operational areas on the helibase.

Use of the Checklist is discussed in Appendix B. Appendix F contains the format for the Daily Helicopter Operations Briefing/Debriefing Checklist. One Checklist may be used for a seven-day period, after which a new one must be initiated.

A two-page version is furnished as Appendix G as a Helibase Crew Reference for members of the helibase organization to refer to during briefings and debriefings. (It is not to be utilized by the Helibase Manager as a substitute for the Checklist itself.)

- B. **Helibase Manager's Reminders List.** Refer to Appendix H. The Helibase Manager's Reminders List is designed in a sequential and logical manner to lead the Helibase Manager and subordinate personnel through all phases of helibase operations: Helibase and Helispot Site Selection, Personnel and Organization, Communications, General Planning Information, and Organization Needs, Operations, Demobilization, and Rehabilitation.

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Use of the Reminders' List is discussed in Appendix B. Appendix H contains the Helibase Manager's Reminders List, which has been reduced for insertion into the Fireline Handbook as a quick-reference guide.

C. Requirements and Recommendations.

For incidents, the use of the Daily Helicopter Operations Briefing/Debriefing Checklist is mandatory at all multiple-helicopter bases by the start of the second operational period. It shall be completed on a daily basis thereafter.

For projects, it is mandatory on the first day at all multiple-helicopter bases.



NOTE: If the Helibase Manager arrives at an incident where operations are already proceeding, it is advisable, unless life or property are being threatened, to conduct a short briefing to review the Checklist. The Helibase Manager should make it clear to the air operations staff that there will be a slight operational delay while the initial briefing is accomplished. The time spent accomplishing this will result in a smooth transition from initial/extended attack to incident management helibase operations, and should increase safety awareness and efficiency significantly.

Anyone who cannot attend briefings or debriefings must be individually briefed or debriefed by the Helibase Manager or designee, utilizing the standard Daily Helicopter Operations Briefing/Debriefing Checklist and other helibase formats (for example, Facilities, Hazard, And Flight Route Map, Helispot Information Summary, etc).

If any item on the Daily Helicopter Operations Briefing/Debriefing Checklist has not been accomplished, approval is required from either the Incident Commander, Project Aviation Manager, or designee (for example, the Air Operations Branch Director). Detail the deviation on the Checklist, General Message Form, or other format. Signature of official approving the deviation is required. Documentation must be attached to this Checklist.

Pilots are required to sign the Daily Helicopter Operations Briefing/Debriefing Checklist on a daily basis.

The use of the Helibase Manager's Reminders List is optional. It is recommended that the Helibase Manager review it upon arrival, with additional review at convenient times throughout each day and after nightly debriefings.

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Depending upon the seriousness of the specific situation, deficiencies noted should either be corrected on the spot, or noted for later discussion during the nightly debriefing and correction the next day.

D. **Briefing/Debriefing Schedule.** Briefing and debriefing schedules vary according to incident or project requirements. Chart 15-2 is provided as a guideline.

Note the necessity for the Helibase Manager and primary staff (Deck Coordinator, TOLC) to provide for sufficient time to prepare for the morning briefing. Adequate preparation results in short, concise, and comprehensive briefings.

During complex, high-activity operations, briefings and debriefings should be scheduled to fall within the duty day of the majority of incident or project Pilots. Separate briefings or debriefings shall be held with Pilots who may miss the group briefing or debriefing due to a staggered duty day schedule.

If long shifts are encountered, the Helibase Manager should consider shifting out on a rotating basis. For example, one day the Helibase Manager comes on duty late, and the Deck Coordinator presents the morning briefing. The Deck Coordinator goes off-shift early, and the Helibase Manager conducts the nightly debriefing. This requires coordination and communication between the two individuals, but is effective in reducing fatigue. It should also be applied to the other helibase personnel.

Chart 15-2: Briefing/Debriefing Schedule

TYPE	TIME FRAME	ADDITIONAL CONSIDERATIONS
Briefing	<p>Depending upon complexity of operations and Pilot duty day requirements, provide for adequate time prior to the "Commence" time shown on the Incident Air Operations Summary (ICS-220).</p> <p>Remember, part of this period must be provided for helicopter preflight prior to the "Commence" time.</p> <p><u>Adjust times as necessary, but be prepared to meet "Commence" times identified.</u></p>	<p>The Helibase Manager and primary staff (that is, Deck and TOLC) should be preparing for the briefing <u>at least</u> 15-30 minutes prior to the briefing's scheduled start.</p> <p>All operational and safety problems identified during the previous nightly debriefing should be corrected. Remember to review the Helibase Manager's Reminders List.</p>

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Chart 15-2: Briefing/Debriefing Schedule (Cont)

TYPE	TIME FRAME	ADDITIONAL CONSIDERATIONS
Debriefing	<p>The debriefing should be accomplished as soon as possible after the completion of helibase operations.</p> <p>Remember for next-day planning purposes that vendor personnel are "On Duty" until the debriefing is completed. Notify the AOBD or Project Aviation Manager if completion time affects next day's plan.</p>	<p>At this time, the next day's plan (if available) should be reviewed.</p> <p>Ensure that complete feedback is obtained from everyone, including contractor personnel, concerning the day's activities. Operational and safety problems should be either immediately corrected or brought to the attention of the ASGS/AOBD or Project Aviation Manager.</p> <p>Cost reports must be submitted to the Helibase Manager or Aircraft Timekeeper by all Helicopter Managers at the end of each operational period.</p>

IV. **Planning and Site Selection.** Good planning prior to the start of a project or during the initial stages of an incident will contribute to safe, efficient operations. Conversely, poor site selection will hinder the management and adversely affect the safety of the operation.

Remember to think and plan ahead for an increase in helicopters, changes in weather conditions (fog, inversions), and other factors outlined on the Helibase Manager's Reminders List.

Helibases can be relocated, but usually at great inconvenience and temporary disruption of operations. Good planning will prevent this from becoming necessary. However, do not hesitate to relocate if safety and/or efficiency can be improved.

- # Refer to Chapter 8, Helicopter Landing Areas, for criteria to consider in locating and constructing helibases and helispots.
- # Appendix H, Helibase Manager's Reminders List, Sections I and II, contains specific criteria to consider when selecting a helibase or helispot site. Section I should be reviewed during initial helibase site selection. Section II should be reviewed whenever a helispot is established.

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V. **Helibase Personnel and Organization.** (See Exhibit 15-1.) Helibase organizations vary in size and configuration depending upon a variety of factors: incident or project complexity, number of aircraft, range and type of missions, and experience level of personnel assigned.

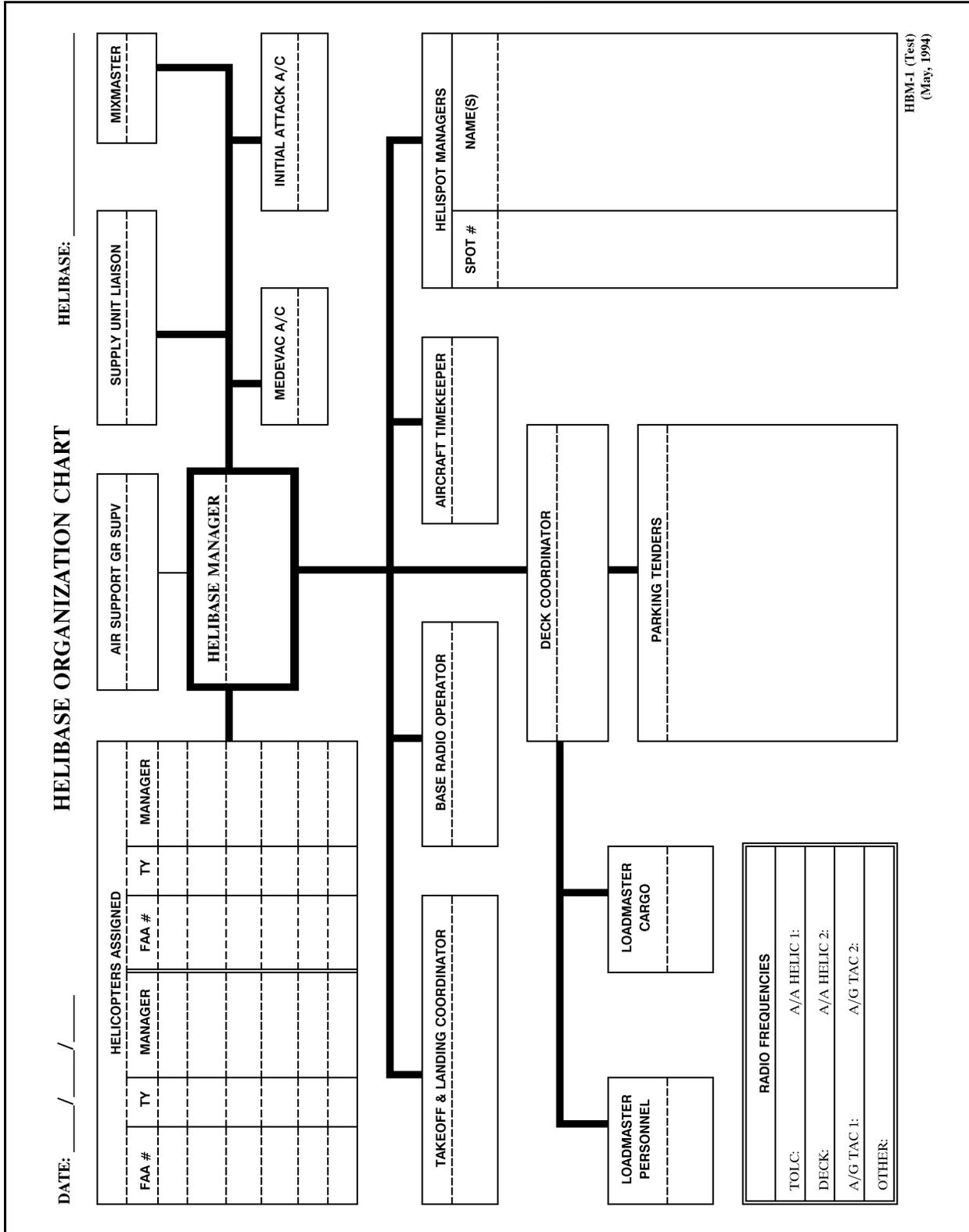
The assignment of trained and qualified personnel to each and every helibase function is critical to the safety and effectiveness of operations. Chapter 2 contains training, qualification, and experience requirements.

Refer to Section I of the Daily Helicopter Operations Briefing/Debriefing Checklist in Appendix F for personnel and organizational items that must be checked prior to the start of operations. Refer also to Appendix H, Helibase Manager's Reminders List, Section III, for similar considerations.

The following discussion of helibase and helispot positions is provided for use in assignment of personnel and is not intended to replace the training and experience requirements and information in Chapter 2.

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Exhibit 15-1: Helibase Organization Chart



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- A. **Helibase Manager (HEB1 or HEB2).** (See Chapter 2, Chart 2-3, for qualification and training requirements.) The position of the Helibase Manager is common to all helibase organizations. This individual is responsible for the safety and efficiency of all helibase and helispot operations.

Helibase Managers are qualified at two levels: Type II (3 or less helicopters assigned to the helibase) and Type I (4 or more helicopters assigned).

Although a Type I Helibase Manager is theoretically able to manage any number of helicopters greater than three, there is considerable difference between a 4-6 helicopter operation and a 15-20 helicopter operation. The potential for individuals to become overloaded and unable to manage effectively certainly exists.

If an operation is not functioning smoothly, the Air Support Group Supervisor and/or Air Operations Branch Director should consider:

- # Assigning a Deputy Helibase Manager (fully-qualified Helibase Manager);
- # Splitting the operation into two or more helibases at different locations to reduce single-location complexity (there are negative aspects of this which may outweigh the advantages);
- # Replacing the Helibase Manager. This option should only be considered if it is determined that the Helibase Manager is unable to manage the helibase correctly. Supervisory personnel also should consider that failures at the helibase may be the result of failures in other parts of the Project or Incident Management Team.

- B. **Takeoff and Landing Coordinator (TOLC).** (See Chapter 2, Chart 2-3, for qualification and training requirements.) The individual assigned must have a complete knowledge of helibase operations, and especially of communications, helibase layout and setup, and helibase air traffic coordination procedures.



NOTE: The TOLC must be qualified Helibase Manager Type II-Trainee. During highly complex helibase operations, the assignment of a fully-qualified Type I or II Helibase Manager to this position is strongly recommended.

During highly-complex helibase operations, it is recommended that FAA Air Traffic Controller(s) be ordered. Refer to the Interagency Airspace Coordination Guide for information on ordering, equipment needs, etc.

Close coordination between the TOLC and the Pilots, Parking Tenders, and Radio Operator is essential to the success of the TOLC operation. See Chapter 4 for further discussion of this function.

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- C. **Aircraft Base Radio Operator (ABRO).** (See Chapter 2, Chart 2-3, for qualification and training requirements.) This individual is key to efficient communications, flight following, and mission assignment.

Close coordination between the ABRO and the Pilots, TOLC, and Helispot Managers is essential to the success of the ABRO function.

The ABRO should communicate frequently with the Helibase Manager concerning mission assignments, priorities, etc. The Helibase Manager should review the requirements of Form HBM-8, Helibase Mission Request Log and Form HBM-9, Helibase Flight Following Log with this individual prior to the start of operations.

The position is also key to fast and efficient implementation of crash-rescue procedures (see Chapter 12).

See Chapter 4 for further discussion of this function regarding helibase communications. Refer also to the discussion later in this chapter regarding setting up a communications area.

During high-activity operations, it is recommended that this position shift out with the Aircraft Timekeeper to avoid fatigue.

- D. **Aircraft Timekeeper (ATIM).** (See Chapter 2, Chart 2-3, for qualification and training requirements.) This individual functions in close coordination and cooperation with the Aircraft Base Radio Operator. The two positions may in fact switch jobs frequently to relieve fatigue. On smaller incidents or projects, the positions may be filled by one individual.

The position also assists the Helibase Manager in obtaining accurate helicopter cost estimates in a timely manner. The Helibase Manager should review the requirements of Form HBM-10, Helibase Daily Use and Cost Summary, with this individual prior to the start of operations.

- E. **Mixmaster.** If a portable retardant operation is ordered, it is advisable that the Helibase Manager immediately order a Mixmaster who is knowledgeable and trained in the type of portable retardant operation to be conducted.

Although it is recognized that many portable retardant operations come fully staffed by the vendor, it is advisable to order this position to function as the government representative monitoring retardant quality control, reviewing and approving payment documents, and generally overseeing the retardant operation.

- F. **Deck Coordinator (DECK).** (See Chapter 2, Chart 2-3, for qualification and training requirements.) The Deck Coordinator is critical to the safe, efficient functioning of the helibase's deck, and is responsible for all activities and functions on the deck.

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The individual assigned must have a complete knowledge of helibase operations, and especially of helibase layout and setup, passenger and cargo transport, load calculations and manifesting, external load operations, fueling, and helibase air traffic coordination procedures.

Close coordination between the DECK and the Pilots, Parking Tenders, Loadmasters, and the TOLC is essential.



NOTE: During highly complex helibase operations, the assignment of a fully-qualified Type I or II Helibase Manager to this position is strongly recommended.

- G. **Parking Tender (PARK).** (See Chapter 2, Chart 2-3, for qualification and training requirements.) Parking Tenders should be fully briefed regarding responsibility for the landing pad to which each is assigned, as well as the helicopter(s) assigned to the pad.

Aside from marshalling helicopters, duties include providing standby fire extinguisher service during refueling and the ability to respond quickly to an aircraft emergency (see Chapter 12 for crash-rescue responsibility).

The use of push-to-talk headsets under the hard hat or flight helmet with portable radio adapter is strongly encouraged to facilitate monitoring TOLC and Radio Operator communications with inbound, outbound, holding, and parked helicopters.



NOTE: Since the Pilot must be able to distinguish the parking tender from other ground personnel working on the deck, the use of a non-flammable high-visibility vests is required.

Close coordination between Parking Tenders and the Pilots, DECK, Loadmasters, ABRO, and TOLC is essential.

- H. **Loadmasters - Personnel and Cargo (LOAD).** (See Chapter 2, Chart 2-3, for qualification and training requirements.) It is essential that all Loadmasters be briefed concerning the characteristics of each make/model helicopter assigned, as well as standard aircraft safety briefing procedures, personnel/cargo weighing, etc. Chapters 7, 9, 10, and 11 and Appendix A provide information on load calculations/manifesting and personnel/cargo transport requirements.

Close coordination between the Loadmasters and the Pilots, Parking Tenders, and DECK is essential.

- I. **Helispot Manager (HESM).** (See Chapter 2, Chart 2-3, for qualification and training requirements.) Since helispots are physically separate from the helibase, resulting in the inability of the Helibase Manager to oversee and monitor helispot

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operations, it is essential that the Helibase Manager assign trained and qualified Helispot Managers to supervise these sites.

Prior to the start of operations, the Helibase Manager should extensively review helispot manager duties and responsibilities, as well as the load capability planning forms in Appendices A and B.



HINT: For landing sites such as remote camps from and to which significant amounts of personnel and/or cargo will be transported, the assignment of a Type II Helibase Manager to the helispot is strongly recommended.

Chapters 7, 8, 9, 10, and 11 and Appendices A and B provide information on load calculations/manifesting, helicopter landing areas, and personnel/cargo transport requirements. The Helispot Manager is responsible for providing the Helibase Manager with information for HBM-2, Helispot Information Summary.

VI. **Helibase Setup and Layout.** (See Exhibit 15-2 for a typical helibase layout.) Section I, Helibase Site Selection and Layout, in the Helibase Manager's Reminders List (Appendix H) should be reviewed during initial site selection.

A. **Time Frames.** A Helibase Manager who can manage and delegate responsibilities effectively should have accomplished all of the items discussed in this chapter, plus those specified on the Helibase Manager's Reminders List, by mid-day of the second operational period on incidents. With more lead time available on a project, all items should be implemented or operational prior to commencement of the project.



HINT: On incidents, accomplishing all of these tasks may require additional, extra work after the end of the shift on the first day. The Helibase Manager should not attempt to accomplish everything alone. Split the workload among existing helibase staff.

Spending this additional time is well worth the effort in terms of achieving a smooth, safe operation the next day.

B. **Obtaining Necessary Equipment.** Consult Appendix K for ordering information. The Helibase Manager should consult this list both at the beginning of the incident or project, and frequently thereafter. Appendix K contains information on how to utilize this the ordering list in conjunction with the supply unit.

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Commonly-needed items include, but are not limited to:

- # Radios and radio kits
- # Ground vehicles
- # Crash-rescue and evacuation kits
- # Helicopter support kits, plus additional fire extinguishers, wind socks, pad markers, signs, lead lines, swivels, and cargo nets
- # Personal protective equipment
- # Porta tanks and water bags
- # Tents
- # Aerial ignition equipment
- # Dust abatement
- # Miscellaneous administrative and office supplies



HINT: At larger helibases with significant cargo transport, order and use an Ordering/Distribution Manager assigned to the helibase. This individual's function is to coordinate the ordering, delivery, and distribution of supplies and equipment to the helibase from the supply unit.

C. **Facilities and Layout Considerations.** Refer to Exhibit 15-2. (Once the helibase is established, complete the Helibase Facilities, Hazard, And Flight Route Map.)

1. **Operations and Communications Area.** One of the first priorities is the establishment of a helibase operations and communications area. See Chapter 4 for additional discussion of this area and its needs.
 - a. **Location.** This area should command a full view of the helibase operational area.
 - b. **Setup.** Set up communications equipment in an area in which the Takeoff and Landing Coordinator, helibase Radio Operator, and Aircraft Timekeeper can function effectively and communicate readily with the Helibase Manager and Deck Coordinator. The following set-ups are usually acceptable:
 - # Outside a helicopter crew chase truck equipped with side compartments to handle communications needs; or,
 - # Just inside a tent, with a full view of the helibase; or,
 - # In a communications van designed for air operations use.

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CAUTION: There are negative impacts of utilizing the interior of a regular vehicle or chase truck. These include but are not limited to: cramped and disorganized quarters, loss of situational awareness of helibase operations, and decrease in verbal communications with the rest of the helibase organization. These tend to outweigh the positive factor of the reduction of noise.

c. **Communications Equipment.**

- # The use of radio headsets to counter helibase noise is strongly encouraged.
- # Various radio kit configurations are listed in Appendix K. Descriptions and explanations of the use of each kit are contained the NIFC Equipment/Supply Catalog. Also refer to Chapter 4 for a discussion of various communications functions.



HINT: The Helibase Manager should devote considerable attention and effort to ensuring that the radio frequency system is well-planned, compatible, and meets the need for ground-to-ground, air-to-ground, and air-to-air functions.

2. **Wind Indicators.**

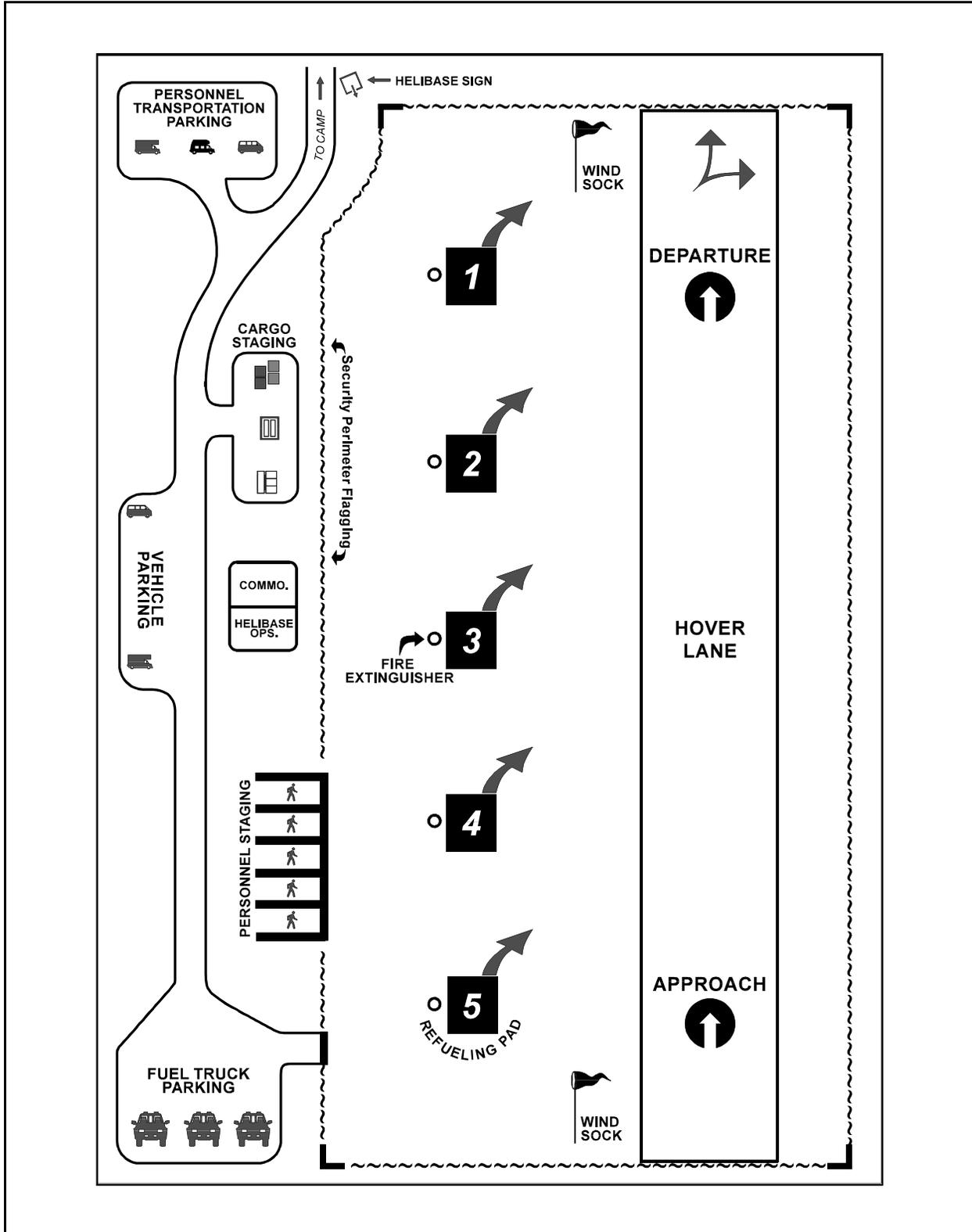
- # Set up wind indicator(s) in location(s) visible to all helicopters. Indicators should be placed on both the approach and departure paths.
- # Indicators should be located at sufficient height to give a true indication of wind direction that is not affected by adjacent vegetation or terrain.
- # They should also be placed in a location where there are no effects of rotor wash from hovering or holding helicopters.

3. **Approach-Departure Path.**

- # Establish approach and departure paths with Pilot input and in conformance with requirements in Chapter 8.
- # Establish hover lanes for access to various areas on the helibase.
- # Enter information on the Helibase Facilities, Hazard, And Flight Route Map.

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Exhibit 15-2: Typical Helibase Layout



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4. **Touchdown Pads and Safety Circles.**

- # Establish touchdown pads and safety circles in conformance with requirements in Chapter 8.
- # Group pads by helicopter types. Also separate pads, or groups of pads, by type of flight mission (for example, external cargo transport pad(s) separate from personnel transport pads).



CAUTION: Establish external load pad(s) to avoid overflights of other pads, helibase, or camp.

- # Establish special pads as necessary for fueling, maintenance, retardant mixing, or aerial ignition (refer to Chapter 13 for fueling separation requirements).
- # Enter information on the Helibase Facilities, Hazard, And Flight Route Map.

5. **Vehicle Parking and Movement.**

- # Establish vehicle parking area for crash-rescue vehicle (if assigned), fuel, cargo, personnel transports, visitors, etc.



CAUTION: Do not allow parking of fuel trucks with other vehicles.

- # Establish procedures for vehicle movement (access to helibase, refueling, delivery of cargo, etc.)
- # Enter information on the Helibase Facilities, Hazard, And Flight Route Map.

6. **Security.** For special security requirements during law enforcement operations, see Chapter 16.

- # Cordon off the helibase as required to control vehicle and foot traffic.
- # Request security if necessary.

7. **Personnel and Cargo Staging Areas.**

- # Establish staging areas for personnel and cargo.
- # Utilize pennant-type flagging for crew "holding areas," as well as for entry-egress routes to pads.

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- # Establish the cargo loading and external load area(s) so that other helicopters are not overflown (see Chapter 8), and so that upon either approach or departure with a load, the helicopter does not overfly inhabited areas.
- # If moderately or heavily traveled roads will be overflown on approach or departure, a road guard may need to be posted. Consult with local law enforcement officials on the posting of road guards. If county, state, or federal highways are involved, the appropriate law enforcement agency is responsible for traffic control.
- # Enter information on the Helibase Facilities, Hazard, And Flight Route Map.

8. **Weighing.** Set up scales for weighing personnel and cargo.



HINT: On incidents, scales may be set up in both the Food and Supply Units to weigh cargo that will be sent to the helibase for eventual transport to the line. Assigning a Loadmaster from the helibase to ensure cargo arrives properly packaged, weighed, and labeled with destination is highly effective. This system can also work quite well on large projects.

9. **Signing.**

- # Post warning signs as required; helibase, speed limit, cargo area, personnel staging, parking, no smoking, etc.

10. **Sanitation.**

- # Provide an adequate number of portable toilet facilities to meet the needs of helibase personnel and crews in transit through the helibase.
- # Order enough trash barrels or dumpsters to handle both the helibase waste needs and the backhaul from helispots.
- # Establish separate disposal area for used batteries and other hazardous materials such as saw gas, oil and grease from helicopter maintenance, etc.
- # Enter information on the Helibase Facilities, Hazard, And Flight Route Map.

11. **Display Board.** Refer to Exhibit 15-3. A Display Board is an essential part of any helibase operation to facilitate information posting, exchange, and briefing requirements.

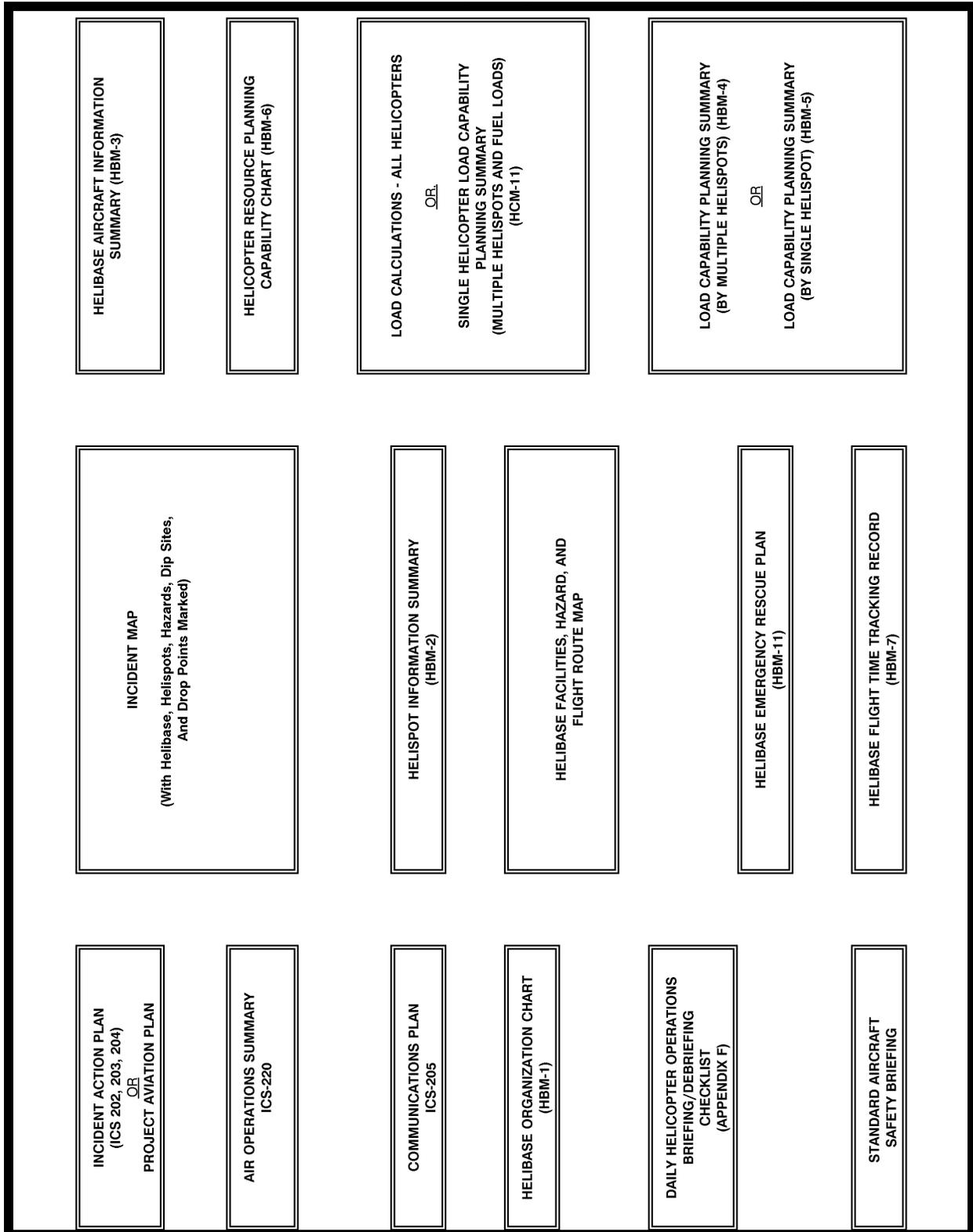
- # The display board should be located near the helibase operations and communications area for ease of posting and referring to information, conducting briefings and debriefings, etc;

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- # 4' by 8' sheet(s) of plywood work well. Ensure that the board has adequate support to withstand high winds and rotor wash;
- # Cover with plastic mylar to protect information in the event of adverse weather.
- # For incidents, required information should be completed and posted on the display board by mid-day of the second operational period, or earlier. For projects, it should be posted prior to the commencement of operations. Unless noted as optional, the following should be posted on the display board (unless indicated as optional, posting is required):
- # Incident Action Plan (ICS Forms 202, 203, 204, and 205 minimum) or Project Aviation Plan
- # Incident or Project Map
- # Air Operations Summary (ICS-220)
- # Helibase Facilities, Hazard, And Flight Route Map
- # Helibase Organization Chart (HBM-1)
- # Helispot Information Summary (HBM-2)
- # Helibase Aircraft Information Summary (HBM-3) (optional)
- # Helibase Flight Time Tracking Record (HBM-6) (optional)
- # Daily Helicopter Operations Briefing/Debriefing Checklist
- # Load Calculations for representative elevations and temperatures for all helicopters assigned, or Single Helicopter Load Capability Planning Summary - Multiple Helispots And Fuel Loads (Form HCM-11)
- # Load Capability Planning Summary (By Multiple Helispots) (HBM-4) or Load Capability Planning Summary (By Individual Helispot) (HBM-5) (optional)
- # Helibase Emergency Rescue Plan (Form HBM-11)
- # Standard Aircraft Safety Briefing

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Exhibit 15-3: Helibase Display Board (4' x 8' Plywood)



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12. **Helibase Eating Area and Arrangements.** An area for eating meals should be established and posted on the Helibase Facilities, Hazard, And Flight Route Map.

The Helibase Manager should coordinate immediately with the Project Aviation Manager or, on incidents with the Air Support Group Supervisor, concerning eating arrangements.

While every situation is different on incidents, it is generally the case that the length of helibase shifts do not often coincide with the main camp's eating schedule. In order to minimize the disruption to the caterer, it is recommended that arrangements be made so that both government helibase and vendor personnel eat at the helibase.

At a minimum, a cold breakfast of items such as cereal, fruit, rolls, milk and juice will provide an adequate breakfast prior to the morning briefing.

If the caterer's schedule is such that the kitchen shuts down prior to the completion of the nightly debriefing, dinner in hot food containers should be provided.



NOTE: In Alaska, personnel are supplied with Meals-Ready-To-Eat (MRE's) for the first three days. Thereafter, fresh food boxes may be provided. Government and vendor personnel are expected to prepare their own meals.

13. **Helibase and Vendor Personnel Sleeping Area.** One or two general sleeping areas for personnel should be immediately designated and posted on the Helibase Facilities, Hazard, And Flight Route Map. Sleeping areas should be well away from the helibase operational area, hover lanes, and approach-departure paths to avoid the effects of rotor wash.



NOTE: The Helibase Manager should make his/her sleeping area known to the Air Support Group Supervisor or Project Aviation Manager in case an emergency arises during the night.

If vendor personnel are required to stay at the incident, then the Helibase Manager is required to ensure that the contractual requirements for adequate rest are met. At a minimum, cots and tents should be ordered.

To meet aviation safety objectives, the effects of Pilot fatigue and inadequate rest facilities must be recognized. It is recommended that Pilot fatigue factors be reduced by:

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- ! Allowing Pilots to sleep in motels or other available facilities, provided that such a policy does not significantly interfere with Pilot duty day/flight time limitations; or
- ! Modifying the above by allowing Pilots to sleep in motels or other available facilities on a rotating basis every third night.



HINT: If motels are not ground accessible within a reasonable time, reduce the effect on flight time/duty day by flying all Pilots to the rest location in one or two aircraft, instead of allowing each Pilot to fly his or her helicopter in.

- # In Alaska, helicopter vendors are advised in the procurement document to provide tents for their personnel. Sleeping bags, visquine, and bug nets are provided at remote helibases. Housing may be available in villages.



RECOMMENDATION: For Alaska, it is highly recommended from an aviation safety standpoint (assurance of adequate rest during mandatory days off) that vendor personnel be returned, at government expense, to the nearest facility with food and lodging for required days-off rest periods, and be returned to the incident, again at government expense.

- # All sleeping areas shall be policed prior to the morning briefing; ensure that all equipment and supplies are well-secured.

VII. Helispot Considerations.

- A. **Personnel and Organization.** Proper helispot management is essential for safe and efficient operations. The Helibase Manager is responsible for ensuring adequate numbers of personnel are assigned.

As a general rule, helispots should have a minimum of two people assigned, although more than two may be necessary (for example, at a camp with significant transport of personnel or cargo). Consider assignment of a Type II or I Helibase Manager to helispots at large camps.

Helispot Managers need to ensure that their staff understands the responsibilities and authorities of helispot management.

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Assignments will normally be made at the helibase briefing prior to the start of the operational period. For helispot crews who stay at camps or helispots overnight, a briefing on the intended operations for the day should be relayed by radio, and input solicited for the nightly debriefing.

Helispot Managers should work and communicate closely with the helibase and the Helibase Manager on both logistical and tactical needs at the helispot.

At the end of each shift, each Helispot Manager, as well as Pilots who utilized the spot, should offer a constructive critique of the day's operations there.

- B. **Establishing Helispots.** On incidents, the Air Operations Director is responsible for the establishment of all helispots, though this responsibility may be delegated to the Air Support Group Supervisor or Helibase Manager. On projects without a full air staff, the Helibase Manager has the responsibility. In either case, close coordination with, and in many cases, authorization by the local Resource Advisor to construct helispots is required. Refer to Chapter 8 for additional information.

Form HBM-2, Helispot Information Summary, should be initiated and updated as new helispots are established. Its primary purpose is Pilot safety briefings.

All helispots must be approved regarding hazards and capability (HIGE or HOGE) by a trained and authorized individual.

- C. **Obtaining Necessary Equipment.** It is essential that all tools and equipment to perform the job correctly, including initial attack firefighting gear, be obtained by the Helispot Manager. This equipment includes:

- # One (1) 20-pound, dry chemical, 40 B:C-rated fire extinguisher
- # Pad marker with nails (initial establishment of spot)
- # Radio with extra batteries
- # Wind Indicator(s)
- # Scales (recommended but not required)
- # Fiber Tape
- # Manifest Book(s)
- # Pocket Calculator
- # Passenger Aircraft Safety Briefing Cards

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- # A list of allowable payloads for each helicopter assigned to the helibase (HIGE and HOGE) for all helispots, since they may be assigned to another spot during the course of the day; copies of Form HCM-11, Single Helicopter Load Capability Planning Summary - Multiple Helispots And Fuel Loads for each helicopter works well for this purpose
- # Food and water
- # Initial attack gear
- # Overnight gear (even if the plan is to return the crew to the helibase)



IMPORTANT NOTE: These items are not required for unimproved landing sites which are used only infrequently. However, if the site is used on a recurrent basis as a personnel or cargo destination, then it becomes a helispot and applicable requirements should be met.

D. Facilities and Layout Considerations. Helispot crews are usually the first personnel to be flown to a helispot, both for initial construction and improvement and on a daily basis thereafter in preparation for personnel and cargo transport. The helispot shall not be declared operational (that is, ready to receive personnel or cargo) until the Helispot Manager has informed the Helibase that the spot is ready.

Some of the considerations discussed regarding facilities and layout of helibases also apply to helispots. Refer to Section II, Helispot Site Selection and Layout, in the Helibase Manager's Reminders List (see Appendix H) for items which should be checked during the establishment of any helispot. Also refer to Chapter 8, Helicopter Landing Areas, for requirements. Items to consider include, but are not limited to:

- # **Wind Indicators.** Considerations are the same as with helibases.
- # **Approach-Departure Path.** Establish approach and departure paths with Pilot input in conformance with requirements in Chapter 8.
- # **Touchdown Pads and Safety Circles.** Establish touchdown pads and safety circles in conformance with requirements in Chapter 8.
- # **Vehicle Parking and Movement.** Though road access to a helispot is the exception rather than the rule, the helispot may have road access. If so, consult guidelines for helibases.
- # **Security.** The helispot may infrequently have need for security. If so, consult guidelines for helibases. For special security requirements during law enforcement operations, see Chapter 16.

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- # **Personnel and Cargo Staging Areas.** Although helispot staging areas do not need to be as elaborate as those for the helibase, establish areas for personnel and cargo well away from the landing pad. If necessary, utilize pennant-type flagging for crew "holding areas," as well as for entry-egress routes to the helispot pad.
- # **Weighing.** If scales are available, utilize them for the accurate weighing of personnel and cargo.
- # **Signing.** Post warning and informational signs (helispot, no smoking, etc.) as appropriate.

VIII. **Communications.** Communications is one of the most important aspects of helibase operations. A good communications plan and network will greatly increase chances of success. Conversely, a poor plan with inadequate equipment is a guarantee of failure.

Communications problems must be solved immediately. Close coordination with the Air Operations Branch Director or Project Aviation Manager is essential. Refer to Chapter 4 for a complete discussion of all communications concerns. Brief all involved using the Aviation Communications Plan included in Chapter 4.

- # Section II, Communications, in the Daily Helicopter Operations Briefing/Debriefing Checklist must be completed on a daily basis prior to the start of operations.
- # Section IV, Communications, in the Helibase Manager's Reminders List should be reviewed as needed by the Helibase Manager.

IX. **Safety.** Safety items as specified in Section IV in the Daily Helicopter Operations Briefing/Debriefing Checklist must be reviewed on a daily basis prior to the start of operations. The Helibase Manager should maintain constant awareness of other safety items not on the Checklist that need review.

X. **General Planning, Information, and Organization Needs.**

- # Appendix B, Helibase Management Forms and Checklists, contains guidance and direction concerning both required and optional planning tools available to the Helibase Manager.
- # The Helibase Manager should review Section V, General Planning, Information, and Organization Needs, in the Helibase Manager's Reminders List as necessary.

XI. **Operations.**

- # Section V, Operations, in the Daily Helicopter Operations Briefing/Debriefing Checklist must be completed on a daily basis prior to the start of operations.

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The Helibase Manager should review Section VI, Operations, in the Helibase Manager's Reminders List as necessary.

- XII. **Demobilization of Aircraft and Personnel.** The Helibase Manager should review Section VII, Demobilization, in the Helibase Manager's Reminders List each time it is anticipated a helicopter will be demobilized. Although use of Form HBM-11, Helicopter Demobilization Information Sheet, is optional, it facilitates the orderly demobilization of air and associated ground resources.
- XIII. **Rehabilitation.** The Helibase Manager should review Section VIII, Rehabilitation, in the Helibase Manager's Reminders List whenever a helispot or helibase will be placed in inactive status or will be permanently demobilized. Refer to Chapter 8 for rehabilitation guidelines and consult the local Resource Advisor for specific rehabilitation standards.
- XIV. **Demobilization and Deactivation of the Helibase.** Aside from the physical cleanup considerations of demobilization addressed in Section VIII, Rehabilitation, in the Helibase Manager's Reminders List, the Helibase Manager is responsible for ensuring that a complete Helibase File is left with the Documentation Unit Leader on incidents or the Project Manager on projects.

This file should consist of the items specified in Section V of the Helibase Manager's Reminders List.

XV. **Miscellaneous Considerations.**

- A. **Operations Involving Military Helicopters.** Operations involving use of military helicopters can increase the complexity of a helibase operation. Although use is generally addressed in this guide, the Helibase Manager should consult the Aircraft Chapter of the Military Operations Guide for specific policy and procedural information.
- B. **Pilot Informational Needs.** Most Pilot informational needs are provided through use of the Daily Helicopter Operations Briefing/Debriefing Checklist at the start of the operational period and by consulting information posted on the helibase display board.

All Pilots must be briefed on a daily basis. Individual briefings must be provided for Pilots not in attendance at the group briefing (that is, those who may have a later

start time due to staggered duty days). In addition, all Pilots shall be provided with a copy of the following:

- # A current Incident or Project Map marked with hazards, helispots, drop points, dip sites, etc;
- # A copy of the Air Operations Summary (ICS-220).
- # A copy of the Radio Communications Plan (ICS-205)

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It is the Helibase Manager's responsibility to identify hard-copy needs of the above to the Air Support Group Supervisor, Air Operations Branch Director, or Project Aviation Manager.

C. Use of Helicopter Rappellers, Cargo Letdown, and Cargo Freefall.

Helicopter rappellers can be extremely useful in meeting initial attack needs on spot fires or on other fires in the immediate area, or for construction of helispots. Their use is not limited to incidents. They can be used effectively on projects to establish helispots where no landing areas exist. The policy and procedures as contained in the Interagency Helicopter Rappel Guide shall be followed.



Use of cargo letdown or freefall can also be highly effective provided the need exists and procedures are strictly followed. (See IHOG Chapter 11, XVI, Cargo Free fall and the Interagency Helicopter Rappel Guide for cargo let-down operations.)

D. Helibase Manager Kit. Helibase Managers should bring the items identified in Chapter 9 to all incidents or projects.

E.  Aviation Safety Assistance Teams/Safety and Technical Aviation Team (ASAT/STAT). A geographic area (that is, a State, Area, or Region) may request that the Incident Commander accommodate the visit of an Aviation Safety Assistance Team, or the Incident Commander or Project Aviation Manager may request one.

Teams are usually made up of Helicopter Operations Specialists and Pilot, Maintenance, and Avionics Inspectors.

Teams have been instructed not to interfere with operations unless an immediate safety hazard is observed. The ASAT/STAT should close out with both the Helibase Manager, supervisory air operations staff (ASGS/AOBD), and the Incident Commander or Operations Section Chief, or Project Aviation Manager.

Appendix J, Incident/Project Helicopter Operations and Safety Evaluation, provides the format the Aviation Safety Assistance Team utilizes to evaluate the operation. The evaluation consists of several parts:

A review of Daily Checklist items, checking for compliance.

A review of Helibase Manager Reminder's List items, checking for compliance.

Evaluation of management relationships to determine if coordination and communication are occurring.

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Determination if training opportunities are being taken.

Pilot, maintenance, and avionics inspectors' findings.

It is advisable that the Helibase Manager consult the Evaluation prior to the Team's arrival. Close adherence and attention to the items in the Daily Checklist and Helibase Manager's Reminders List will usually ensure an overall positive evaluation.