

## **CHAPTER 17: SEARCH AND RESCUE OPERATIONS.**

### **I. Introduction.**

The use of aviation assets for search and rescue operations can be highly effective. All direction in this chapter is intended for the purpose of promoting the safety and efficiency in search and rescue aviation operations.

**CAUTION:** Search and Rescue of Agency Personnel is different than that required for Civilians. Check Agency Policy for these Authorizations.

All activities not covered in this chapter shall follow the procedures outlined in other parts of this guide, as well as other appropriate agency manuals and handbooks. Due to the high-risk nature of search and rescue missions, it is critical that search and rescue personnel possess a complete knowledge of all aspects of helicopter operations.

The leader of each helicopter search and rescue mission shall implement the rapid risk assessment and management techniques discussed in IHOG, Chapter 3, Operational Planning.

**CAUTION:** It is very easy to become caught up in the urgency of a search and rescue mission, especially those involving life-threatening situations. Regardless of the degree of emergency, never forget to utilize basic helicopter procedures.

All activities not covered in this chapter and specifically exempted here or in agency-specific policy shall follow the procedures outlined in other parts of this guide. This chapter is organized according to the structure and chapter sequence of the guide itself for ease of reference.

### **II. Personnel Duties and Responsibilities, Qualifications, Certification, and Training.**

All search and rescue aviation operations should be conducted by qualified Helicopter Managers and crew members in accordance with the requirements for Project Helicopter Managers and Project Crew Members.

### **III. Operational Planning.**

#### **A. Types of Missions.**

Types of specialized search and rescue flight environments and missions may include:

- Reconnaissance
- Low-level flight
- Hovering Out of Ground Effect
- Short Haul Rescue
- Rappelling
- Cargo Letdown
- Support to other agencies

These types of operations must emphasize safety requirements and considerations. When planning aviation missions, an Aviation Manager must be consulted to ensure compliance with guidelines and procedures and to assist in safe, effective operations.

Appendices A and B contain a discussion of various required forms and checklists to be used on both single-helicopter and helibase and helispot management and operations.

**B. Rappelling and Shorthaul Operations.**

The use of rappelling or short haul requires agency approval, training, and qualifications in accordance with the current copies of the Interagency Helicopter Rappel Guide or the Interagency Helicopter Shorthaul Guide.

**C. Use of the Incident Command System Aviation Structure.**

During complex operations, it is advisable to utilize the Incident Command System aviation structure, including the helibase table of organization.

**D. Aerial Supervision/Airspace Coordination.**

For multiple aircraft operations, it is recommended that an aerial supervisor be assigned (ATGS, HLCO) to perform aerial supervision and airspace coordination duties. This individual can operate from either a fixed-wing aircraft or helicopter. The requirements of Federal Aviation Regulation FAR 91.119 regarding maintaining minimum safe altitudes from persons or property on the ground apply (see Interagency Airspace Coordination Guide).

**IV. Communications and Flight Following.**

All procedures in Chapter 4, Flight Following, Resource Tracking, and Communications, shall be followed.

**V. Personnel and Equipment Approval and Carding.**

Aircraft of other federal, state and local agencies, military components, and private industry cooperators used by search and rescue entities that are not currently under contract or agreement should only be used until approved aircraft and Pilots can be obtained.

NOTE: The agency involved in the search and rescue operation may have a Letter of Agreement (LOA) or Memorandum of Understanding (MOU) that allows use of other-agency aircraft or military aircraft and contains standards for Pilot and equipment approval.

**A. Emergency Operations.**

➔ Emergency Operations. In certain life threatening emergencies it may be necessary for personnel to deviate from policy for life and death situations. This may include PPE deviations, seating configurations, and riding in unapproved aircraft and/or with unapproved Pilots. These situations usually involve search and rescue or medivac operations being conducted by local authorities using public agency, military, commercial or private aircraft.

NOTE: Don't become part of the emergency! Choose an aircraft capable of meeting performance requirements for the mission.

The following policies shall govern emergency situations:

- Authorization will be given on a case-by-case basis by the responsible employee in charge or Incident Commander (it is recognized that this cannot always be accomplished before the fact);

- A written justification statement shall be prepared by the employee and attached to an agency incident/hazard report, and submitted to the appropriate Aviation Manager within 24 hours of the completion of the mission.

**B. Non-Emergency Operations.**

All rental, charter, contracted or owned aircraft shall be flown by Pilots who meet agency standards and possess a current Interagency Pilot Qualifications Card.

**VI. Helicopter Capabilities and Limitations.**

Refer to Chapter 6, Helicopter Capabilities and Limitations, especially for guidance regarding flying at night during emergency operations.

**VII. Helicopter Load Calculations and Manifests.**

See Chapter 7, Helicopter Load Calculations and Manifests, and Appendix A, Helicopter Management Forms And Checklists, for requirements and procedures.

- When utilizing aircraft other than military, load calculations and manifests are required.
- When utilizing military aircraft, use of the Performance Planning Card (PPC) is acceptable.

**VIII. Helicopter Landing Areas.**

Refer to Chapter 8, Helicopter Landing Areas, for requirements and procedures.

- Standards outlined in Chapter 8 shall be followed. It is recognized that in emergency situations that landing areas may not always be optimal. Nevertheless, particular care should be exercised in selecting landing sites for search and rescue operations.
- Guidance and requirements for conducting one-skid, toe-in, or step-out landings for search and rescue operations is contained in Chapter 8.

**IX. Equipment Requirements and Maintenance.**

Refer to Chapter 9, Equipment Requirements and Maintenance, for standard requirements and procedures.

- Exemptions from agency aviation personal protective equipment (PPE) requirements are agency-specific and shall be used only in emergency situations. These generally apply to the use of alternative PPE for extreme environmental conditions.
- It is recognized that search and rescue operations may require the use of specialized equipment. In these situations, consult with the local unit Aviation Manager.
- High-visibility flight suits for dedicated search and rescue emergency medical personnel are highly recommended (Pilots can readily locate personnel on the ground).

**X. Personnel Transport.**

See Chapter 10, Personnel Transport, for general requirements and procedures. It is recognized that during emergency search and rescue operations that all requirements may not be able to be met. Nevertheless, care should be exercised to prevent additional injury and/or loss of life. If possible, the Helicopter Manager should be on board the helicopter to assist with Aircraft Management.

Depending on the situation, the following procedures should be used.

**A. Medical Transport of Patients.**

- Use the most qualified medical attendant.
- Secure oxygen tanks.
- → Carry latex gloves for protection from patient body fluids and blood-borne pathogens. Proper body substance precautions should be utilized in transport of the deceased.
- Secure patients to the litter, then secure the litter to the helicopter.
- If injuries would be aggravated by use of personal protective equipment or the time involved in clothing the patient in PPE, then PPE requirements are exempt.

**B. Transport of Canines.**

All canines shall be either muzzled and secured to a hard point or contained in a restrained portable carrier. Canines shall be transported in the rear of the helicopter and accompanied by a handler.

**XI. Cargo Transport.**

Refer to Chapter 11, Cargo Transport, for standard requirements and procedures.

**XII. Fire Protection and Crash-Rescue.**

See Chapter 12, Fire Protection and Crash-Rescue, for standard requirements and procedures.

**XIII. Fueling Operations.**

See Chapter 13, Fueling Operations, for standard requirements and procedures. Also see Appendix I, Remote Site Fueling Reminders List.

**XIV. Helicopter Maintenance.**

See Chapter 14, Helicopter Maintenance, for standard requirements and procedures. Maintenance requirements for use of cooperator or military aircraft should be established by Letter of Agreement or Memorandum of Understanding (usually contained in the same LOA or MOU that authorized use of Pilots).

**XV. Helibase and Helispot Management and Operations.**

See Chapter 15, Helibase and Helispot Management and Operations, for standard requirements and procedures. Also see Appendix F, Daily Helicopter Operations Briefing/Debriefing Checklist.

- Canines must be under the strict control of a handler at all times.

**XVI. Administration.**

- Appendix D, Contract Administration; Agency Flight Payment Documents, provides guidance on helicopter administration, including Contracting Officer, Contracting Officer's Representative, and Project Inspector duties and responsibilities, completion of flight payment documents, etc.
- Agencies may have specific guidelines on reporting non-revenue use of cooperator and military helicopters.