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.

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 thorough 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 Chapter 3.

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 emergency, never forget to follow basic helicopter procedures.

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 agency requirements for Resource/Project Helicopter Manager and Resource/Project Crew Member.

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
- Rappel
- 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.

B. **Rappel and Short-haul Operations.**

The use of rappel or short-haul requires agency approval, training and qualifications in accordance with the current edition of the *Interagency Helicopter Rappel Guide* or the *Helicopter Short-haul Handbook*.

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

During complex operations, it is advisable to use the Incident Command System aviation structure.

D. **Aerial Supervision and Airspace Coordination.**

For operations using multiple aircraft, 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 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 LOA or MOU that allows use of other-agency or military aircraft that contains standards for Pilot and equipment approval.

A. **Emergency Operations.**

In certain life threatening emergencies it may be necessary for personnel to deviate from policy. 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 medevac operations being conducted by local authorities using public agency, military, commercial or private aircraft.
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 shall be prepared by the employee and attached to a SAFECOM 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 agency 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, especially for guidance regarding flying at night during emergency operations.

VII. Helicopter Load Calculations and Manifests.

See Chapter 7 and Appendix A for requirements and procedures.

- When using aircraft other than military, load calculations and manifests are required.
- When using military aircraft, use of the PPC is acceptable.

VIII. Helicopter Landing Areas.

Standards outlined in Chapter 8 shall be followed. It is recognized that in emergency situations landing areas may not always be optimal. Nevertheless, particular care should be exercised in selecting landing sites for search and rescue operations.

IX. Equipment Requirements and Maintenance.

Refer to Chapter 9 for standard requirements and procedures.

- Exemptions from aviation 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 personnel are highly recommended (Pilots can readily locate personnel on the ground).

X. Personnel Transport.

See Chapter 10 for general requirements and procedures. It is recognized that during emergency search and rescue operations all requirements may not be met. Nevertheless, care must 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.

• Secure oxygen tanks.

• Carry medical gloves for protection from patient body fluids and blood-borne pathogens. Proper body substance precautions should be used in transport of the deceased.

• Secure the patient to the litter and then secure the litter to the helicopter.

• If injuries would be aggravated by use of personal protective equipment then PPE requirements are exempt.

B. Transport of Canines.

All canines should be either muzzled and restrained or contained in a secured portable carrier with Pilot's concurrence. Canines shall be transported in the rear of the helicopter and accompanied by a handler.

XI. Cargo Transport.

Refer to Chapter 11 for standard requirements and procedures.

XII. Fire Protection and Crash rescue.

See Chapter 12 for standard requirements and procedures.
XIII. Fueling Operations.

See Chapter 13 and Appendix I for standard requirements and procedures.

XIV. Helicopter Maintenance.

See Chapter 14 for standard requirements and procedures. Maintenance requirements for use of cooperator or military aircraft should be established by LOA or MOU.

XV. Helibase and Helispot Management and Operations.

See Chapter 15 and Appendix F for standard requirements and procedures.

XVI. Administration.

- Appendix D 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 for reporting non-revenue use of cooperator and military helicopters.