CHAPTER 4: COMMUNICATIONS, FLIGHT FOLLOWING AND RESOURCE TRACKING.

I. Introduction.

Communications, flight following and resource tracking are key components in promoting employee and aircraft mission safety and efficiency. It is important that a line of communications be established and maintained throughout the aviation and dispatch organizations. Communications at all levels should be encouraged to resolve situations before they become a problem.

Local units should ensure that the existing communications network is adequate to meet both fire and project flight needs. Unit Aviation Managers or dispatchers should report, through submission of a SAFECOM, any discrepancies in the flight following system. These discrepancies may involve human performance problems (for example, failure to adhere to check-in requirements) or failures or limitations in the system (for example, inoperative equipment, inadequate coverage areas, etc.). Corrective action shall be given a high priority.

Personnel must be furnished and aircraft must be equipped with sufficient radio capabilities and maps to meet safety objectives.

- The Pilot is required to carry sectional aeronautical charts of the area(s) of operations.
- On all non-point-to-point, mission flights, it is recommended that the Helicopter Manager carry topographic maps (1:250,000 AMS suggested) of the area(s) of operations.
- Contract aircraft, and where possible, local vendor aircraft used on a recurring basis, should be equipped with agency compatible radios.
- Special use missions require communications equipment that will allow radio check-ins to be made without removal of the approved flight helmet. Agencies should obtain avionics equipment that provides for this requirement.

NOTE: If check-ins cannot be made due to equipment failure, the aircraft shall return immediately to the departure point or proceed to the closest facility where a check-in can be made via telephone. The flight must not proceed until the problem is corrected and positive communications are established. Dispatchers are instructed to institute “Overdue Aircraft” procedures when check-in requirements are not met.
II. Flight Following.

Flight following is the knowledge of the aircraft location and condition with a reasonable degree of certainty such that, in the event of mishap, those on board may be rescued. Flight following, whether performed from a dispatch office or other facility, or at a remote location in the field, must be given a high priority by all personnel involved.

The purposes of flight following and resource tracking procedures are to:

- Ensure the safety and welfare of flight crew and passengers.
- Perform resource tracking to promote effective use of aircraft.
- Provide information for the administrative processing of aviation related documents.

Pilots, dispatchers, and helicopter managers must be knowledgeable of the differences between flight following and resource tracking and of the different methods and options of flight following and resource tracking. It is understood that frequently the two intermix (for example, a flight following check-in accomplishes resource tracking, and vice versa).

Flight following procedures outlined here are more restrictive than the national flight following procedures contained in the National Mobilization Guide.

A. Identification of Flight Following Requirements.

At the time the flight is planned or during morning briefings at incident helibases, flight following requirements should be clearly identified by the dispatcher, unit aviation manager, helicopter or project flight manager, helibase manager or other responsible party.

This individual should identify check-in procedures to include time and locations, dispatch office(s) or other flight following facilities involved, individuals responsible for flight following, frequencies to be used and any special circumstances requiring check-ins (for example, to military facilities within Special Use Airspace).

B. Methods of Flight Following.

There are several methods to accomplish flight following. Refer to Chart 4-1 for a summary of these methods, those that are appropriate for point-to-point flight, and those appropriate for mission flight. Flights following methods include:

- An Instrument Flight Rules (IFR) flight plan. This method is not usually used for helicopter point-to-point or mission flights.
- A VFR flight plan with radio/telephone check-in to an FAA facility or agency dispatch office at intervals specified. This method should be used for helicopter point-to-point missions, especially long-distance ferry flights to and from projects or incidents.
• An agency VFR flight plan with radio/telephone check-in at intervals specified in the flight plan not to exceed agency minimums. Minimums vary for point-to-point and mission flights. See Chart 4-1.

• Systems with automated flight following (AFF) via satellite whose reporting intervals meet agency minimums (see https:\www.aff.gov).

• Aerial supervision using ATGS, HLCO or others. This is often the way to maintain communications with aircraft involved in low level flight operations.

For specialized flight following procedures during law enforcement operations, see Chapter 16.

C. Documentation of Flight Following.

The following requirements apply to agency flight following only and are not applicable to flight following performed through the FAA system. In the event of a mishap, the speed and effectiveness of search and rescue is dependent on the accurate transmission and recording of flight following information.

1. Dispatch Flight Following Log for Project Flights. Flight-following is accomplished using local forms and procedures for project missions.

2. Helibase Flight Following Log. Form HBM-9, Helibase Flight Following Log, shall be used for all flight following during project or fire helibase operations.

D. Check-In Facilities.

1. FAA Flight Following. For FAA flight plans, check-ins are made with FAA facilities upon departure, while enroute and upon arrival at destination.

2. Agency Flight Following. Check-ins may be made with either the dispatcher or with trained personnel or other aircraft at the incident/project site (e.g., helibase, Incident Commander, etc.). When field (on-site) flight following is approved, ground personnel performing the flight following must have contact with dispatch to allow timely reporting of any accidents, incidents, hazards or problems encountered.
### Chart 4-1: Flight Following and Resource Tracking Options and Requirements

<table>
<thead>
<tr>
<th>Flight Following</th>
<th>Resource Tracking</th>
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<tbody>
<tr>
<td><strong>OPTIONS</strong></td>
<td></td>
</tr>
<tr>
<td>1. FAA IFR Flight Plan</td>
<td>Resource Tracking may be performed by PHONE or RADIO (if aircraft is equipped with VHF-FM)</td>
</tr>
<tr>
<td>2. FAA VFR With Check-in Every ____ Minutes To FAA</td>
<td>Check-ins are made</td>
</tr>
<tr>
<td>3. Agency VFR With Check-in via radio Every ____ Minutes To Agency Dispatch</td>
<td>1. With Scheduling Dispatcher @ ____________________</td>
</tr>
<tr>
<td></td>
<td>(PHONE NUMBER)</td>
</tr>
<tr>
<td></td>
<td>( ) Prior to Takeoff</td>
</tr>
<tr>
<td></td>
<td>( ) Each Stop Enroute (optional; negotiated with Dispatcher)</td>
</tr>
<tr>
<td></td>
<td>( ) Arrival At Destination</td>
</tr>
<tr>
<td>4. Satellite-based Automated Flight Following System</td>
<td>2. As specified by the Dispatcher, Check-ins may also be made with another office.</td>
</tr>
<tr>
<td></td>
<td>OTHER OFFICE @ ____________________ (PHONE NUMBER)</td>
</tr>
</tbody>
</table>

#### Mission

**OPTIONS** (Flight Following and Resource Tracking Become The Same)

1. Agency VFR With Check-in via radio Every ____ Minutes

Frequency(s):

2. Satellite-based Automated Flight Following System

3. Aerial Supervision With Check-in via radio Every ____ Minutes, Frequency ____ and Call Sign
E. Check-In Requirements.

Check-in requirements differ between point-to-point and mission flights.

NOTE: Exceptions must be made in Alaska due to long distances and incomplete FAA and agency communications facilities. 60 minute interval check-ins for point-to-point flights and 15 minute interval check-ins for mission flights are not always feasible. It is therefore imperative that FAA and/or agency flight plans be filed for point-to-point flights and that the resource tracking check-in/check-out system be strictly implemented.

1. **Point-to-Point Flight.** Check-ins shall be made at 60 minute intervals (maximum) and at every fuel stop.

2. **Mission Flight.** Check-ins shall be made as follows:
   - Unless alternative flight following intervals have been identified in advance for areas of incomplete coverage or valid mission requirements, check-ins at intervals not to exceed fifteen (15) minutes are the standard.
   - Prior to and immediately after landing. If it is anticipated that terrain will interfere with check-in at the landing site, call in while still at altitude, giving a reasonable estimate of on ground time. Helicopter managers and Pilots should be aware that the dispatcher will expect a check-in at the end of the on ground time identified.
   - Prior to and immediately after takeoff. The takeoff check-in should be made as soon as communications can be established.

EXEMPTION: Law enforcement personnel on sensitive missions may request an exemption to the above requirements from their unit Aviation Manager. If flight following cannot be performed without compromising mission integrity, a detailed flight plan will be submitted in a sealed envelope to the dispatcher. Check-ins can then be made by referring to nonspecific “points” (for example, Point A, Point B, etc.) that are identifiable only on the flight plan itself. If no mishap occurs, the envelope is returned unopened to law enforcement. If a mishap occurs, the envelope is opened and emergency response procedures are initiated.

F. Check-In Information.

The check-in made by the Helicopter Manager or Pilot for mission flights shall consist of:

- Current location use global positioning system (GPS) latitude/longitude if available; otherwise legal or geographic descriptions are acceptable
- Current direction of flight
- Next destination or area to be surveyed
- Estimated time on ground (if landing)
G. Failure to Meet Check-In Requirements.

The dispatch or other flight following facility shall immediately initiate emergency response procedures for overdue or missing aircraft.

III. Resource Tracking.

In order to facilitate cost-effective use of aircraft and planning of resources, scheduling offices and ordering offices may request Pilots or the government representative on board an aircraft to relay flight status information at designated intervals. These notifications are performed to coordinate changes in assignments or update time frames for mission completion. They may be performed via radio or phone calls to dispatch offices. The need for and method of resource tracking should be planned and documented on the flight request/plan or resource order. The use of aircraft radios for resource tracking is at the discretion of the Pilot and shall not interfere with air traffic control or the safe operation of the aircraft.

On point-to-point flights, including ferry flights, it is required that the Helicopter Manager or Pilot to make resource tracking check-ins, usually via telephone, at enroute stops and at final destination. Refer to Chart 4-1.

IV. Aircraft Communication Systems.

A. Aircraft VHF-AM Radio.

All agency-owned, contract, and rental aircraft have a VHF-AM radio for communication with FAA facilities. Some VHF-AM radio frequencies are available for incident or project use on either a nationally or regionally assigned basis.

Along with the use of VHF-AM frequencies to perform flight following check-ins with FAA facilities, communication functions of the VHF-AM bandwidth include helicopter takeoff and landing coordination and air-to-air tactics.

With the exception of 122.925\(^1\), these frequencies must be ordered from the local dispatch facility. The order must specify the function for which the frequency is intended (e.g., TOLC, air-to-ground, air-to-air, etc.).

Large helibases with numerous aircraft should have separate frequencies assigned for takeoff and landing control and air-to-air tactics for the entire incident or project. A checkpoint should be established at which the Pilot should change frequencies from air-to-air tactics to TOLC, and vice versa.

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\(^1\) VHF-AM frequency 122.925 is a frequency designated for use by all natural resource agencies. It may be used on both incidents and projects for air-to-air and air-to-ground communications. The hazard in utilizing this frequency for any extended period of time is that anyone can use it. An incident or project cannot restrict its use by others.
B. Aircraft VHF-FM Radio.

See procurement document for FM radio Requirements.

1. Analog. It is important to know whether the frequency being used is wide-band (25 MHz) or narrow-band (12.5 MHz). Additionally, tones may be used. Both the transmit and receive side of the radio may be tone guarded.

2. P-25 (Digital). Digital and Analog frequencies are not compatible in either transmit or receive mode. Network Access Codes (NAC) function similarly to tones when using digital frequencies.

C. Satellite and Cell Phones.

This equipment may supplement radio communications in some instances. However, their use during flight by the Pilot-in-Command (PIC) should be limited to that necessary for the safety of the flight and its occupants. In-flight phone calls should not be used for leg-by-leg resource tracking, company business or any unnecessary conversations.

IMPORTANT NOTE – Distractions and workload in the cockpit increase with the use of specialized equipment such as differential GPS navigation systems, Dataloggers, programmable graphic displays and some radio equipment. The Pilot's primary task must be flying the aircraft.

V. Helibase Communications.

There are two major factors to consider regarding helibase communications:

- The system itself, consisting of hardware, frequency assignments, and the location at which communications with aircraft are performed; and,
- The individuals who are responsible for helibase communications.

A good helibase radio communication system, staffed by trained personnel, should result in effective, safe operations.

A. General Considerations.

The following standards should be consistently followed:

- Operations must not be conducted if flight following requirements cannot be maintained.
- Communication between the helibase and helispots is required.
- Helicopters with avionics problems that don’t allow positive communications must return to the helibase (or other directed location) and should be shut down until the problem is corrected.
• A review of the Communications Plan shall be conducted during the morning review of the Daily Helicopter Operations Briefing/Debriefing Checklist, ensuring that all helibase personnel and Pilots are aware of frequencies to be used, flight following requirements, and, most importantly, any changes to the Communications Plan since the last shift. A critique of communications should be conducted at the debriefing.

• Frequency changes during a project should be the exception rather than the rule. However, during large, complex incidents, or incidents that are in a transition stage from extended attack to team management, frequency changes may be the rule rather than the exception. Be flexible and ensure that changes are made known to all.

**IMPORTANT NOTE:** One of the difficulties air crews experience in contacting an incident is when frequencies have been changed on the incident, but not on the Aircraft Resource Order. It is incumbent that the Air Operations Branch Director or other staff member ensures that dispatchers relay new or changed frequencies and air/ground contacts when ordering additional aircraft for an incident.

• Ensure that problems are brought to the attention of the air operations staff or Project Aviation Manager. The Communication Unit Leader and/or local radio technician are helpful resources in solving communications problems.

### B. Organization.

All personnel working at the helibase are affected by how information is exchanged. Communication flow and how it is structured within the helibase organization will differ with each situation, but must be established with and understood by each member of the helibase organization.

The two key positions under the Helibase Manager that directly manage the communication flow are the ABRO and TOLC. See Chapter 2 for a description these positions.

### C. Helibase Communications and Flight Following Forms.

The ABRO uses the following forms to accomplish the duties and responsibilities of the position:

• **ICS-220, Air Operations Summary,** identifies aviation communications frequencies.

• **ICS-205, Incident Radio Communications Plan,** identifies aviation and other communications frequencies and functions.

• **HBM-6, Helibase Mission Request Log,** identifies requested missions.

• **HBM-5, Helibase Flight Following Log,** enables the ABRO to track and identify current location and intended destination of assigned helicopters.

• **HJA-4A, Emergency Rescue Information,** identifies primary and secondary medevac helicopters in the event of injuries to personnel or in the event of an aircraft mishap.
This becomes part of the Medical Plan.

- HJA-4B, Emergency Medevac Medical Transport Request, allows the ABRO to obtain additional information necessary to respond safely and efficiently to a request for Helicopter Emergency Medical Services (EMS) services.

D. Incident Communications Plan and Frequencies.

Refer to Exhibit 4-2 for an illustration of an aviation communications plan.

There is no standard communication plan that will work in all situations for all agencies during complex helicopter operations. For this reason, the following is a general discussion of helicopter communications in terms of communication functions, requirements, options, and radio discipline. These may be adapted to the specific situation encountered.

On an incident or project, the number of helicopter communication functions is dependent upon the complexity of the situation. One may use any number of these functions to meet the need. Refer to the *NIFC Aircraft Radio and Communications Frequency Guide* and the *Incident Aviation Communications Functions and Frequency Guide* for additional information.

1. Helibase Air Traffic Control. This function is commonly called the TOLC frequency. It is used to coordinate departing and arriving air traffic at the helibase with other aircraft, the TOLC and ABRO, the HLCO, the Air Tactical Group Supervisor, and Helispot Managers.

2. Flight Following. This function is usually performed by the ABRO. The HLCO, as well as the Air Tactical Group Supervisor, can be of assistance with this function, particularly when working the helicopters in remote areas of the incident or project out of VHF-AM, line-of-sight range.

Remember that a “human repeater” is an effective method of flight following when radio repeaters are unavailable or not working. This function may employ a Ground/Aircraft Radio Link system which translates VHF-AM aircraft transmissions to UHF frequencies via a repeater.

3. Deck Communication and Coordination. Use of a Logistics Net frequency for ground-to-ground deck communications on large helibases can facilitate communications between the Parking Tenders, Loadmasters, DECK, TOLC, and the ABRO.

4. Air-to-Air Tactics. This frequency is used by all aircraft, the HLCO, and the Air Tactical Group Supervisor to coordinate aerial activities. On large incidents or projects, helicopters and airplanes may have separate frequencies.

5. Air-to-Ground Tactics. Several frequencies may be used to coordinate aerial activities with ground activities. Helicopters should have frequency compatibility for this function. If the helicopters do not, the HLCO or Air Tactical Group Supervisor must have compatibility with ground units in order to pass on the information to helicopters via the air-to-air frequency.
6. Command. There is usually only one Command frequency assigned, although there
may be more than one frequency for this function on large incidents assigned as Air-
to-Ground Command. This function is used to link the Incident Commander or Project
Aviation Manager, air operations staff members, and the Air Tactical Group Supervisor.
Its use should be strictly limited to overhead communications and should not be used
for other traffic except in an emergency.

7. Support/Logistics. This function is for supply and support requests, status keeping,
and general non-tactical, non-command information. The ABRO can be the central
point for relaying information that falls within this broad function.

8. Air Guard. Air Guard is a national frequency with specific designated uses: emergency
contacts, initial contact at an incident by inbound aircraft, and long-range dispatch or
rerouting. At no time should Air Guard be an assigned frequency, nor should it be used
if other frequencies become overloaded.

E. Communication Requirements and Options.

1. Frequency Compatibility. It is essential that all aircraft and ground personnel have
compatible radios and frequencies in order to perform necessary communication
functions.

2. Radio Traffic and Radio Discipline. Radio traffic must be disciplined and concise. If
problems are encountered with overloaded radio frequencies, first examine whether
radio discipline is being practiced. If not, take corrective action with Pilots, aircraft
managers, and helibase personnel. If the frequencies remain overloaded, then an
additional frequency or frequencies may be needed.

Remember that at no time shall the Air Guard frequency be used for any function
other than its intended uses.

Use the following guidelines in managing radio traffic.

- Agency requirements for sterile cockpit procedures shall be followed.
- Use clear text on all operations. See Exhibit 4-3.
- Keep messages brief and to the point.
- If the message is long, stop the transmission periodically to allow for emergency
  or other short messages to be transmitted.
- If a frequency has been designated for a specific function, do not allow radio
  traffic unrelated to this function on the frequency.
- On the takeoff and landing control frequency, encourage Pilots to actively
  participate in aircraft coordination on inbound and outbound routes. If the TOLC
tries to coordinate all air traffic, the Pilots may be lulled into relying on the
position excessively. Remember that the basic tenet of VFR flight is “see and
avoid.”
• If an individual (for example, the ABRO or TOLC) will be off the frequency or out of the area temporarily, ensure that all Pilots who might try to communicate with that function are aware of the out-of-service condition. Remember that the flight following function must always be staffed when aircraft for which it is responsible are airborne.

• Establish standard procedures for where and/or when helicopters contact the TOLC and ABRO.

• When making a radio call, identify the radio or frequency on which the message is being transmitted. Since Pilots and ground personnel are monitoring more than one frequency, this will enable them to identify which radio or frequency to use to respond. For example: “Blues Helibase, Helicopter 68X on Victor². Send an additional Type 2 Helicopter with bucket to Division B.”

• Never use frequencies without prior authorization. Switching to an apparently unused frequency may have serious consequences for FAA air traffic control, other adjacent incidents, etc.

3. Frequency Monitoring. Pilots can usually monitor only two frequencies effectively.

Experience has proven that the fewer the frequencies that need monitoring and fewer the people from whom the Pilot is receiving direction, the better the Pilot will function. Their understanding will increase and fatigue factors will be reduced.

For this reason, it is essential that the HLCO, Air Tactical Group Supervisor, ABRO, and TOLC monitor all incoming radio traffic directed toward the airborne helicopter operation.

4. Switching from One Frequency to Another. The necessity to manually switch frequencies affects the Pilot. Due to the normally short turnaround times of helicopter missions, frequency changes are a source of distraction and increase the already heavy workload.

To relieve this, Pilots should be required to monitor only one primary frequency at a time, with a secondary as a backup.

5. New or Changed Frequencies. If a new frequency is necessary, or frequencies are changed, coordination between the aviation management positions is essential in getting new information to all ground and air personnel. Frequency additions, changes, and deletions should be coordinated through the Communication Unit Leader. A specific time for the changeover to occur should be established to avoid confusion.

If at all possible, avoid switching frequencies and their functions in the middle of a shift.

6. Combine Functions. On smaller incidents, communication functions can be combined. A common method is to combine helicopter air traffic control, air-to-air traffic control, air-to-air tactics, and flight following on one frequency. Command, air-to-ground tactics, and support are often combined on another frequency.

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² “Victor” is an abbreviation for VHF-AM Radio, as opposed to VHF-FM, which may be identified as “Fox-Mike.”
The biggest drawback to combining functions is the resultant increase in radio traffic on each frequency, making this option usually usable only on smaller, less complex incidents or projects.

7. Issuing Air Traffic Information and Advisories. Safety is dependent upon adequate air traffic information and advisories being given, and that the information is received and acknowledged. Remember that interpretation can vary. Monitor radio traffic for compliance and ask the Pilot to repeat if uncertain.

Additionally, remember that only certified FAA Air Traffic Controllers can issue “clearances” and “control” the airspace. The function of TOLC and ABRO is to provide information, advisories, and coordination of inbound and outbound aircraft around the helibase.

In most situations, Pilots need to know the following:

- Which helicopters are affected
- Identification of unit issuing the advisory
- What type of traffic (helicopter, fixed-wing, etc.)
- What traffic is doing
- Location of traffic
- Direction of travel
- Type, direction, and altitude of pattern; note that traffic pattern direction must change if wind changes
- Recommendations

Request acknowledgment from each aircraft. This is critical for safety. Pilots may not receive the information due to being involved in radio traffic on other frequencies, their location, and helicopter noise.

EXAMPLE: Consider a sample traffic coordination advisory from the Air Tactical Group Supervisor on the Blues Incident:

“All Blues Incident helicopters, Blues Air Tactical, air tankers will be dropping on the ridge running north-south west of Helispot 7. Drops will be from south to north, clockwise pattern. Stay below 4000 feet on the north and east sides of the incident until further notice. Acknowledge.”

Pass on new information. It is important that the ABRO and/or TOLC and the aircraft on the incident or project relay new information to each other. This is critical on complex operations when there are separate frequencies for air-to-air and helicopter air traffic coordination.
Once the previous message was acknowledged by all airborne helicopter Pilots, the Air Tactical Group Supervisor should contact the helibase(s) to ensure that no missions are launched to the area of air tanker operations.

“Blues Helibase, Blues Air Tactics, air tankers will be dropping on the ridge that runs north-south to the west of Helispot 7. Drops will be from south to north, clockwise pattern. Helicopters have been instructed to stay below 4000 feet on the north and east sides of the incident until further notice. Acknowledge.”

8. **Special Operations.** During special operations such as helitorch, plastic sphere dispenser, or rappel, discrete frequencies are often assigned to avoid interference from other operations. In all cases, consult the Communications Unit Leader or local agency communications specialist before using any frequency. Radio signals sometimes “pair up” to produce a signal on a third frequency which may interfere with other services.
**WHEN HELICOPTER CONTACTS HELIBASE**

HELICOPTER # ______, __________________ HELIBASE

1. WINDS ARE _____ MPH FROM THE ____________.
2. *(EITHER)* A. THERE IS NO REPORTED TRAFFIC.
   *(OR)* B. _____ *(LIST AIRCRAFT)* IS OUTBOUND FROM _____ TO ______
   *(AND/OR)* C. _____ *(LIST AIRCRAFT)* IS INBOUND FROM _____ TO ______
3. BE ADVISED OF ____________________ *(LIST PERTINENT AIRSPACE ACTIVITY)*
4. LAND AT PAD _______.

**BEFORE A HELICOPTER DEPARTS HELIBASE**

HELICOPTER # ______, __________________ HELIBASE, ON __________

1. WINDS ARE _____ MPH FROM THE ____________.
2. *(EITHER)* A. THERE IS NO REPORTED TRAFFIC.
   *(OR)* B. _____ *(LIST AIRCRAFT)* IS OUTBOUND FROM _____ TO ______
   *(AND/OR)* C. _____ *(LIST AIRCRAFT)* IS INBOUND FROM _____ TO ______
3. BE ADVISED OF ____________________ *(LIST PERTINENT AIRSPACE ACTIVITY)*
4. DEPART AT YOUR DISCRETION.

**EXAMPLE:**

Helicopter 5NR, Side Lake Helibase on Victor
Winds are 5 miles per hour from the west
Helicopter 0PA is outbound from the Helibase to H-1
Be advised of troop shuttle activity from the Helibase to H-1
and air tanker activity in Division A
Depart at your discretion