CHAPTER 3: OPERATIONAL PLANNING.

I. ➔ Introduction[1].

It is essential that all aviation operations be planned with the utmost consideration given to safety and operational efficiency. Missions can be accomplished safely and efficiently, provided that a high degree of pre-planning, risk analysis, and management is applied. Many users have developed Standard Operating Procedures (SOP) that streamline the planning process, incorporate the lessons learned from others experience, and utilize the best practices that balance the demands for safety and efficiency.

This chapter discusses operational areas that must be addressed and actions that must be performed during the flight planning and scheduling process, including but not limited to:

- Assessment and mitigation of hazards
- Selection of aircraft
- Cost-analysis
- Submission of the Aircraft Flight Request/Schedule
- Scheduling of aircraft with vendors
- Ensuring that sufficient, qualified personnel are assigned
- Pilot and aircraft approvals
- Pre-flight briefings
- Post-flight evaluation

Several agencies use a Safety Management Systems (SMS) approach as the foundation to aviation safety. The four pillars of SMS are Safety Policy, Safety Risk Management, Safety Assurance and Safety Promotion. SMS is also the standard for safety set by the International Civil Aviation Organization (ICAO) and the Federal Aviation Administration (FAA).

SMS will promote the transition from the traditional approach to aviation safety which:
- Reacts to undesirable events
- Focuses on compliance
- Creates a culture of blame and individual accountability
- Addresses only known safety concerns

To the contemporary approach which:
- Emphasizes an proactive risk management
- Promotes a “Just” culture
- Addresses systemic safety concerns
- Holds the organization accountable

➔ [1]Adapted from http://www.afterburnerseminars.com/the-six-steps-to-mission-planning.php and http://www.uscg.mil/auxiliary/training/tct/default.asp.

- Identifies “What” so we can manage the manageable
- Communicates the “Why” so the culture can learn from mistakes

The intent of SMS is to improve the aviation culture by increasing hazard identification, reducing risk taking behavior, learning from mistakes and correcting procedures before a mishap occurs rather than after the accident. The SMS process is being used to achieve a positive reduction in the number of aircraft accidents by identifying hazards inherent to the mission, recognizing human behaviors that result in error, and devising preventive measures that will counter against these occurrences. Much of this analysis and mitigation applies to factors that are applicable to management levels above the field user; however, some of the factors identified in the system safety assessment are operational in nature and do apply to all levels of the organization. These operational factors are presented later in this chapter.

Common hazards associated with a helicopter mission –crew fitness, distraction, mission focus, communication, weather, takeoff or landing weights, landing areas, other aircraft, wire and other obstructions – are identified in the system safety analysis and controls are provided to mitigate the hazard(s). Preflight project planning for low-level flights and other special use activities is naturally more intensive because the aircraft and crew are placed in a less forgiving environment. The identification of these specific hazards should provide a system of standards and alternatives that crewmembers can use to maintain situation awareness and develop a better foundation for decision making. Risk assessment and mitigation is a continual process that should utilize all resources available to the helicopter crew.

Tactical planning provides a means whereby you project your thoughts into the future in a multi-dimensional mental model that will allow you to anticipate and influence events before they occur. This also provides you with tools that prepare you for contingencies rather than reacting to events as they occur. In doing so you attempt to influence the destiny of your operation through proactive means rather than being dependent on external drivers for success.

Planning

Every decision you make will be affected by the objectives that are the basis of your mission, and your ability to anticipate and influence events before they occur..

The objective has to be clear. Simple objectives are usually better, but to be effective they need the following;

- They must be measurable on some quantifiable scale so you can ultimately determine whether the mission was successful.

- They must be achievable. This doesn’t mean it has to be easy. If you’re going to mobilize resources, nothing degrades their abilities, motivation, energy or enthusiasm quicker than to give them an impossible task.

- They must support the overall goals of the organization.

Preparation is the key to flexibility. You always need to have options. Long term success won't come if you continually rely on only one course of action. Ask "What if?" questions such as, "What if the flight is delayed?" What if the passengers at an intermediate point are late? What if the meals for the spike crews aren't delivered as scheduled. Up to fifty percent of your planning process is usually required for contingency planning.

It is easier to do contingency planning in an air-conditioned room, in the company of your teammates, instead of later when the rotors are turning and the sun is getting close to the horizon. That's not the time to brainstorm but the time to execute based on decisions made in the calm comforts of the planning room. You won't have time to think things through as thoroughly during the mission. The answers to these questions need to be made in the planning stage.

Contingency planning needs to be detailed. Break down your mission into its smallest components, and then rank those components on the basis of their importance. What's going to absolutely stop your progress? What component is essential for the mission to go on? Then work out all the ways something can go wrong to that component and develop your solutions.

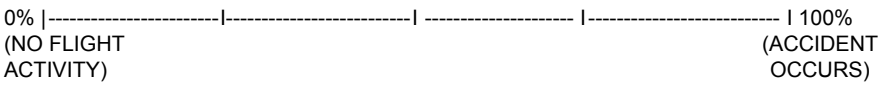
At times you will come up with a very difficult situation that won't have an apparent answer. When this occurs there is a blockage caused by the; operational tempo, resources selected, organizational culture, personal priorities, etc. Seek out the underlying cause for the impediment. The process of repeatedly asking the "Why?" of the issue will lead you options you can explore more fully and get around the mental block. Keep peeling back the layers until the block is removed. Once you've got a back-up for every item on the must-have list, you're ready to execute your mission.

II. Risk Management[2]

Risk management enables personnel at all levels to do exactly what the term implies: manage risks. Risk Management has been defined as the process by which risk assessment results are integrated with political, social, economic and engineering considerations for decisions about the need/methods for risk reduction. System Safety risk management, however, is a holistic type of risk management. This section is directed toward risk management as it applies to helicopter and helibase field level operations. For more information on the Safety Management System consult the Aviation Management web sites for the US Forest Service and DOI BLM.

Any flight mission has a degree of risk which varies from 0% risk (no flight activity is conducted) to 100% (aircraft and/or personnel experience a mishap).

RISK CONTINUUM



[2]Parts of this section are paraphrased from Flightfax - Report Of Army Aircraft Accidents, "Risk Management vs. Risk Assessment: What's The Difference," LTC. Kurt Pierce, December, 1991, Volume 20, No. 2

Flight operations are usually well organized and funded, making them one of the safest means of accomplishing work, alternative methods (for example, performance of the mission by ground) should always be considered. In every mission there are many decision points such as:

- Planning decisions made in preparation for the mission and planned threat mitigations.
- Management approval for the mission to take place and the controls that management deems necessary to ensure a level of safety commensurate with the benefit of the operation.
- Continual decision making that is necessary to evaluate and respond to changing conditions during the execution of every flight.
- In accordance with Federal Aviation Regulations, the Pilot always retains final authority for the operation when safety of the aircraft and occupants is a factor.

Risk management is an ongoing process that should be integrated into all of these decision-making processes.

A. Risk Management Principles

These basic decision making principles must be applied before any anticipated job, tasks, or mission is performed:

- **Accept no unnecessary risk**. Unnecessary risk does not contribute to the safe accomplishment of a task or mission. The most logical choices for accomplishing a mission are those that meet all the mission requirements while exposing personnel and resources to the lowest possible risk.
- **Make risk decisions at the appropriate level**. Making risk decisions at the appropriate level establishes clear accountability. Those accountable for the success or failure of a mission must be included in the risk decision process. Supervisors at all levels must ensure subordinates know how much risk they can accept and when they must elevate the decision to a higher level.
- **Accept risk when benefit outweighs cost** .Weighing risks against opportunities and benefits helps to maximize unit capability. Even high-risk endeavors may be undertaken when there is clear knowledge that the sum of the benefits exceeds the sum of the costs.
- **Integrate risk management into planning and execution at all levels.** To effectively apply risk management, leaders at all levels must dedicate time and resources to incorporate risk management principles into the planning and execution phases of all operations. Integrating risk management into planning as early as possible provides the decision maker with the greatest opportunity to apply risk management principles.

B. Time Element in Risk Management.
Performing risk management is limited by the amount of time available for planning and requires flexibility and judgment by both pilots and air operations supervisors. Risk management can be divided into three categories according to time element.

1. **Deliberate.** This type is used when planning time permits. It involves systematic risk identification, evaluation, consideration of control options and risk decision making, implementation of controls, and supervision. Note that all of these may be applied to time critical risk management; however, the time frame in which the rapid examination is performed is extremely compressed by the urgency of the situation.

   This is the type of risk assessment that should be performed by the Air Operations Branch Director in completing the ICS-220 Air Operations Planning Summary, by the Helibase Manager in briefing personnel and discussing intended missions, and by project personnel when planning a flight mission days or weeks in advance.

   For example, if a Wild Horse and Burro Specialist knows that she must perform a census in a certain area at a specific time of year, there is ample time to identify and evaluate hazards (wires, military training routes, deep canyons, etc.), develop and implement controls (for example, coordinate with the military to de-conflict airspace), and supervise preparations for the mission.

2. **Time Critical.** This type of risk management is an “on-the-run” mental or verbal review of the situation using the risk management process without necessarily recording the information. The process is used to consider risk while making decisions in a time limited situation. Many of the skills used in this context are applicable to normal mission where deliberate risk management has occurred and crews must manage risk in a dynamic situation.

   Search and rescue missions also fall in this category. Encountering unexpected winds at a helispot is another common occurrence, where the Pilot must rapidly assess the risk and determine whether to land, attempt to land at another spot farther from the objective, or abort the mission and return to base.

Note that “Time Critical” does not mean “hasty” or “uninformed”.

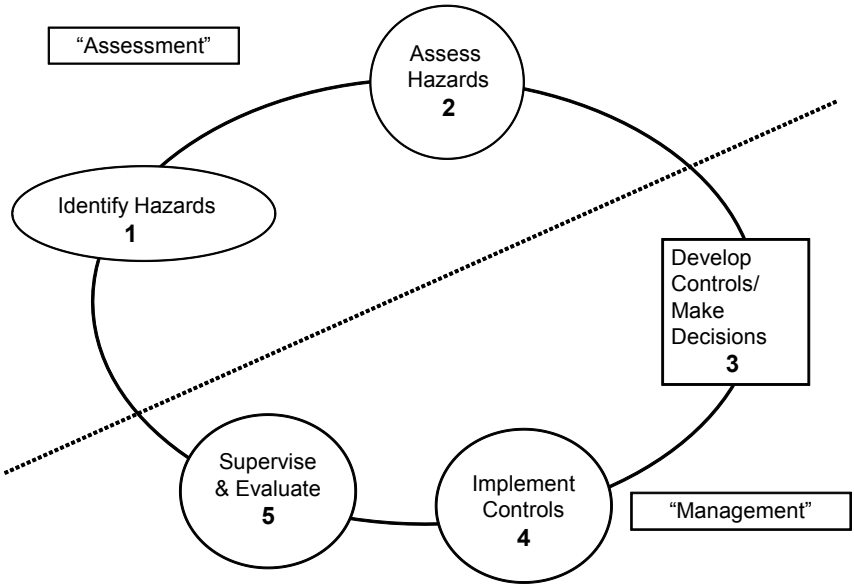
3. **Strategic/In-Depth.** This type should be used in instances where new technology is being proposed, when risks appear high, and time and resources allow thorough assessment. Risk management at this level requires more sophisticated techniques and professional reviews.

   An example would be the Safety Management System testing and implementation of a new aerial firing device (for example, helitorch), new external load methods (for example, longlining), or new method of personnel delivery (for example, rappelling). In this case, handbooks and operating procedures must also be developed and/or revised.

C. Risk Management Process

The process by which risk is managed is ongoing throughout the mission. It starts in the planning stage, continues to the approval and scheduling phase, is evaluated and adapted during the execution phase and is analyzed and collected as lessons learned in the post flight phase.

The Risk Management Process



1. **Identify Hazards.** The first step in risk management is to identify hazards. The hazards are the potential sources of danger that could be encountered while performing a task or mission. Hazards include weather, time of flight, terrain, equipment, training, and proficiency level of personnel.

   There may be less obvious hazards that become apparent during planning. The Helicopter Manager, the Pilot, other participants in the flight, and the Helibase Manager, should all identify potential hazards before the operation.

   The following is a good example of a mission that contains hazards to the flight and to personnel which may be encountered if the flight is not performed. All personnel should participate in the brainstorming and identification of potential hazards. This should include the Helibase Manager, higher-level air operations staff, the Operations Section Chief, the crew bosses on the fire line, and, most importantly, the Pilot(s) who may be asked to perform the mission.

EXAMPLE: The Helibase Manager receives a mission to transport food, water, and shelter to crews who have been working the first day of a fire and will remain overnight in a remote camp. Conditions are extremely windy from approaching thunderstorms, visibility is decreasing as sunset nears, and the drop point is less than optimal. The forecast is for severe weather (thunderstorms, hail, possible floods) throughout the night.

In order to provide a systematic approach to identifying threats one of the more popular memory aids is the **4 –Ms**. These are **Method, Medium, Man, and Machine**. There are others of course, but they all have the same goal of sorting and triggering recognition of threats applicable to each category.

Risk or threat detection and identification are part of our daily lives. For example, when sleeping in a hotel, were you ever awakened by the fire alarm? Like many people you probably realized that there were a number of actions that are either immediate or can be delayed based on the situation. Situation awareness is key to identifying threats and their effect. In our example you probably start by looking for the exit and supporting clues for the validity of the alarm simultaneously. Is there smoke? Do you smell anything unusual? Can you get to and open the door? In an instant you have answered these quick few questions and have triggered the 4-Ms without thinking about them (Medium – environment, condition of the room, presence of fire or smoke; Method – run, walk or crawl to the door, obstacles, shields; Man – what are your physical capabilities, is fear, panic, or denial in control, are others responding; Machine – false alarm or genuine, operation of the door mechanism, locks to clear, fire on the other side of the door).

A very short list of hazards may look like this for our example above using the 4-Ms;

Method	
2	**Mission urgency and time available for planning**
3	**Limited number of resources and alternatives available**
Medium	
1	**Thunderstorms create lightning, winds, turbulence, and restrictions to visibility**
3	**Limited visibility, time, and maneuvering in low level environment**
Man (Generic)	
1	**Pilot proficiency and training**
2	**Communication saturation**
3	**Firefighters without water, food, and shelter over night**
Machine	
1	**Helicopter internal load capacity**
2	**Helicopter external load capability**

2. Assess Hazards

Hazard or Risk assessment is part of the risk management process. Risk assessment can range from simple to complex, but must be detailed. The process of assessing hazard causes personnel to analyze the degree of risk associated with each threat, and place these in perspective relative to the objectives of the mission and organization.

The risk assessment for the aviation operation should be conducted by those individuals best qualified by training and experience to evaluate a proposed flight or operation. These personnel include the Helicopter or Project Flight Manager, the Dispatcher, the unit Aviation Manager and Line Manager, and ultimately the Pilot, who has the authority to decline a mission which he or she considers excessively hazardous. The risk assessment process assures that the information needed for informed decision making is made available. Make risk acceptance decisions by balancing risk benefits against risk assessments, and eliminate unnecessary risk. Two different methods to evaluate risk will be discussed later in this chapter. They differ in the way they look at the threats developed in step 1.

Specific hazards, such as mission urgency and pilot proficiency can be addressed by the model provided in this chapter.

For general hazards, the Green Amber Red (GAR) Model can address more general risk concerns. A description of this and other models is contained in Appendix J.

3. Develop Controls/Make Decisions

Starting with the highest threat, identify the risk control options for all of those identified in the previous steps that exceed an acceptable level of risk.

The STAAR model of risk management is:

- **S**pread the risk over time, distance or numbers of participants to reduce the effect of a single event.
- **T**ransfer the risk away from critical system components or to those most reliable to decrease probability of a bad outcome.
- **A**void threats by establishing barriers and other controls to eliminate probability of a bad outcome.
- **A**ccept the level of threat and its probability with every aspect of the system poised for success.
- **R**educe the effect or exposure through safety devices (PPE, wire cutters, etc.) or limit the number of resources exposed.

a. Some of the control options we have for risk management include:
   - **Engineer hazards out of the system**. Use/design human operated machines that reduce, avoid, or spread the risk so that it becomes acceptable.
   - **Guard/Control**. These controls affect the environment around the person(s) at risk. They limit exposure, which in effect spreads and reduces risk to an acceptable level.
   - **Distance.** Can spread or reduce risk by inserting a linear or time dimension to the process.
   - **Time**. Time is a critical dimension in risk control and is an outgrowth of the operations tempo. We have plenty of evidence that points to the effect of poor time management and mishaps. A direct relationship can be made between rushing and high risk, particularly in logistics-caused mishaps. Taking enough time to do the job right in the first time is one of the most effective risk controls we have.
   - **Training and Education.** These risk controls will always have a viable application. Training and education allows us to accept risk with the understanding that personnel can learn to manage risk.

b. Brainstorm a list of ways to reduce the risk levels that you considered unacceptable in the previous step.

c. Determine the consequences of each alternative on mission and/or team goals.

d. Select the best alternative or combination of alternatives. The mission priority and time criticality will often drive which option is chosen. Stretching an aviation resource is not conducive to long term success. A conservative response to challenge is always preferred to meet this objective.

The risk management process and documentation discussed in this chapter will provide management an accurate picture or mental model of the flight operations system and the aviation risks involved. It provides a communication tool for management purposes to make informed decisions regarding benefit and risk. In this way management sets the standards of risk for the mission and determines that the benefit ratio is appropriate.

4. **Implement Controls/ Execute and Monitor (Be Vigilant)**
Implement the plan and ensure that the risk controls are known by all and are utilized. Ensure that people know and do what is expected of them. A high level of risk that cannot be effectively controlled should be reported to the person supervising the operation. Continually evaluate the effectiveness of the controls and ensure that the risk remains in balance with the benefits.

5. **Supervise and Evaluate**
   Note any changes to the operation, equipment, environment, and/or people and how they may affect your plan. It is important to remember that risk management is a continuous process! Adjust to changes in the situation in real time by remaining vigilant and maintaining your situation awareness to identify unexpected as well as planned threats. Track your progress by taking note of intermediate accomplishments that will denote and add up to the completion of your objective. Additionally, After Action Reviews are a good way to assure that the supervision and monitoring of the mission are effective and that lessons learned are captured for the future.

D. Risk Assessment Tools.

As discussed previously, the second step of risk management is assessment of the threats/hazards. There are several tools that may be used to document the risk involved in the operation. For an in depth look at specific threats or hazards, the following model compares the probability and effect that a threat or hazard may have on the operation.

In using this model each of the threats/hazards is analyzed to determine (1) the effect (Severity) on the mission, environment, personnel, and equipment should the hazard be encountered and will include the combination of exposure and the severity of the threat, and (2) the likelihood that the threat/hazard will be encountered.

1. **Severity.** If the threat /hazard is encountered during a flight mission or aviation operation, the effect may be:
   - Catastrophic: Results in fatalities and/or loss of the system.
   - Critical: Severe injury and/or major system damage.
   - Marginal: Minor injury and/or minor system damage.
   - Negligible: Less than minor injury and/or less than minor system damage.

   Controls include; protective devices, engineering controls, personal protective equipment, reduction in the number of people involved, and the number of events, cycles, evolutions.

2. **Likelihood.** The probability of encountering the threat/hazard during the flight mission or operation may be:
   - Frequent: May be continuously or often encountered during each mission.
   - Probable: May be encountered several times during the course of many missions.
   - Occasional: May be encountered sporadically during the course of many missions.

- Remote: May be encountered infrequently, but chances are remote.
- Improbable: May be encountered only rarely; chances are possible, but improbable.

Controls include training, awareness, attitude changes, information flow, flexibility, timing, location, separation, and routing.

Exercising judgment on how to eliminate or reduce hazards to lessen the overall risk is inherent to the risk assessment process. During this step, controls will be evaluated that may reduce and mitigate the risks to a level that is appropriate to the desired benefit. Use the Risk Assessment Matrix (Chart 3-1) and the attached Risk Assessment Worksheet to document this process.

IMPORTANT NOTE: Be aware that the initial assessment of risk(s) may indicate an unacceptable level when compared to the expected benefit. However, once controls are determined, the risk assessment may indicate a lowered risk that may be acceptable when compared with the benefit of the operation.

➔ **Chart 3-1: Risk Assessment Matrix**

	Severity			
Likelihood	**IV Negligible**	**III Marginal**	**II Critical**	**I Catastrophic**
Frequent A	-		4	
Probable B	-	3	-	High
Occasional C	-	2	Serious	-
Remote D	1	Medium	-	
Improbable E	LOW	-	-	-

➔ Aviation Risk Assessment Worksheet

Assess the risks involved with the proposed operation. Use additional sheets if necessary.			
Assignment:	**Date:**		
	Pre-Mitigation hazard rate out as:		
Describe the Hazard:	Likelihood A-E	Severity I-IV	Risk Level
Pre Mitigation Overall Rating:			

	Post-Mitigation hazards rate out as:		
Mitigation Controls:	Likelihood A-E	Severity I-IV	Risk Level
Post Mitigation Overall Rating:			

Success Probability/Benefit Statement:

Operation Approved by:	Title:	Date:

HJA-5 4/2009 Optional

3. **Risk Levels.** Refer again to Chart 3-1. This step concludes the initial risk assessment that describes the risk associated with each of the threat/hazards individually. The result is a quantification of the risk associated with the operation: High, Serious, Medium, or Low. In all instances the benefit must outweigh the risk. Each assessment must be weighed on the variables of the operation. **In no case would the overall risk of the mission be less than the highest specific risk factor (example: one high, one serious, and two medium threats couldn't result in anything less than high).**

   - **High**: The combination of severity and likelihood indicate that threat/ hazard has a greater than 50% chance of exceeding control measures and the result will be critical or worse. Benefit to risk must be carefully weighed and planners ensure that; 1) emergency response resources are positioned for immediate use, 2) the approval is made by the highest official in the local organization, and 3) crewmembers are well rested, briefed and aware of the known threats and their controls.

   - **Serious**: Risk is high enough that there is uncertainty as to whether the mission can be accomplished without an accident and/or loss of life or serious injury. Hazards may or may not be able to be mitigated.

   - **Medium**: Degree of risk is such that it is fairly certain that the mission can be accomplished safely. Hazards exist, but can be mitigated.

   - **Low:** Little or no impact on mission accomplishment. Hazards are those normally associated with flight (possibility of bird strike, mechanical malfunction, etc.).

➔ Chart 3-2: Example of SMS Assessment and Mitigation

SMS Assessment and Mitigation

Assessment and Mitigation (Example):

System-

Sub-system	**Hazards**	**Pre Mitigation Likelihood**	**Pre Mitigation Severity**	**Pre Mitigation Outcome**	**Mitigation**	**Post Mitigation Likelihood**	**Post Mitigation Severity**	**Post Mitigation Outcome**	**Mitigation Achieved ?**	**Additional Local Mitigation**	**Post Mitigation Value**
Capabilities	High DA will overgross the aircraft	Occasional	Occasional	High 4	Use appropriate aircraft for mission. Conduct thorough pre-mission planning, load calculations, etc.	Remote	Catastrophic	Serious 3	Yes	For Helispot H-43 and H-64 will only use Helicopter N45X a AS350B3 A-Star	Seroius 3
	AC not appropriate for mission.	Occasional	Occasional	Serious 3	Ensure appropriate aircraft is ordered & utilized. Conduct thorough pre-mission planning, load calculations, etc.	Remote	Critical	Medium 2	Yes		Medium 2

Final Assessment Value:	**Prepared By:**	**Date:**
Operation Approved by:	**Title:**	**Date:**

Use additional sheets if necessary

HJA-6 4/2009 Optional

Blank Aviation Risk Assessment worksheets and SMS Assessment and Mitigation worksheets are available in Appendix J.

Risk Level	Appropriate Management Level for Risk Decision	
	Fire	**Project**
High	Incident Commander or Operations Section Chief	Line Manager
Serious	Incident Commander or Operations Section Chief	Line Manager
Medium	Air Operations Branch Director	Project Aviation Manager
Low	Helibase Manager	Helicopter or Flight Manager

During mission planning, risk decisions should be made at a level of command that corresponds to the degree of risk. For personnel at the field level a general risk appraisal may often be sufficient and may be accomplished through the use of the Green, Amber, Red (GAR) Model. Refer to Appendix J for further information on the Gar Model.

Medium-risk decisions should be elevated to a somewhat lower level (for example, to the Air Operations Branch Director or Project Aviation Manager level). Low-risk decisions can usually be made at the Helibase Manager or Helicopter Manager level. Refer to Chart 3-2 for guidance.

During mission planning, risk decisions should be made at a level of command that corresponds to the degree of risk. **The Pilot and or Helicopter Manager always have the authority to decline the mission.**

How to Properly Refuse Risk

Every individual (government and contract) has the right and obligation to report safety problems affecting his or her safety and has the right to contribute ideas to correct the hazard. In return, supervisors are expected to give these concerns and ideas serious consideration. **When an individual feels an assignment is unsafe, he or she also has the obligation to identify, to the degree possible, safe alternatives for completing that assignment.** Turning down an assignment is one possible outcome of managing risk.

A “turn down” is a situation where an individual has determined he or she cannot undertake an assignment as given and is unable to negotiate an alternative solution. The turn down of an assignment must be based on assessment of risks and the ability of the individual or organization to control or mitigate those risks. Individuals may turn down an assignment when:

a. There is a violation of regulated safe aviation practices.
b. Environmental conditions make the work unsafe.
c. They lack the necessary qualifications or expertise.

Individuals will directly inform their supervisor that they are turning down the assignment as given. The most appropriate means of documented turn down criteria is using the **Aviation Watch Out Situations** (page 46 IRPG).

The supervisor will notify the Air Operations Branch Director immediately upon being informed of a turn down. If there is no Air Operations Branch Director, notification shall go to the appropriate Section Chief, the Incident Commander, or the local Aviation Manager. Proper handling of turn downs provide accountability for decision and initiates communication of safety concerns within the incident organization.

If the assignment has been turned down previously and the supervisor asks another resource to perform the assignment, he or she is responsible to inform the new resource that the assignment has been turned down and the reasons why. Furthermore, the personnel need to realize that a turn down does not stop the completion of the assigned operation. The turn down protocol is an integral element that improves the effective management of risk, and it provides timely identification of hazards within the chain of command, and raises risk awareness for both supervisors and subordinates and promotes accountability.

➔ If an unresolved safety hazard exists, the individual needs to communicate the issue/event/concern immediately to his or her supervisor and document as appropriate, including filling a SAFECOM through the SAFECOM System..

III. Types of Flight Missions.

Informational needs, flight following methods, requirements for personal protective equipment, aircraft/Pilot carding, and required management approvals differ between point-to-point and mission-type flights, and between general use and special use flight. In order to identify the type of flight, the following definitions have been established.

A. Point-to-Point vs. Mission-Type Flight.

1. **Point-to-Point Flight.** Typically, the flight originates at one developed airport or permanent helibase, with flight route being direct to another developed airport or permanent helibase. The flight is conducted solely for the purpose of transportation of persons or cargo for administrative travel purposes, and does not involve mission-type flight.

   When planning to deviate from a direct route for aerial surveillance or other reasons, the deviation must be specified and documented in advance.

   Except in an emergency or at the direction of an air traffic control facility, there shall be no deviation from the submitted flight plan while en route unless the agency representative aboard the aircraft reports the amended flight plan to a designated point-of-contact.

All point-to-point flight is considered general use flight (see general and special use definitions below).

2. **Mission Flight.** These flights are defined by exclusion as all flights not meeting the definition of "point-to-point" flight. As such, mission flight requires work to be performed in the air (for example, retardant or water delivery, reconnaissance, etc.), or through a combination of ground and aerial work (for example, delivery of personnel and/or cargo from helibases to helispots or unimproved landing sites, rappelling or cargo letdown, horse herding, etc.).

   Mission flight inherently requires greater planning due to the greater number of hazards and consequent higher degree of risk commonly involved in non-point-to-point flights.

B. General Use (point to point) vs. Special Use.
Flights are also categorized as either "General Use" or "Special Use" activities. Special use flights require additional Pilot qualifications, aircraft equipment, and passenger safety equipment. All helicopter flights, including those aboard cooperator, military, and other government agencies' aircraft, shall conform to the requirements as outlined in appropriate agency directives.

1. **General Use.** A point-to-point flight is general use flight. Mission flight conducted at greater than 500 feet AGL, with no descent at any time below 500' AGL, is also general use flight. During a flight mission, the type of use shall not change from a planned "general use" environment to an unplanned "special use" flight environment unless the following conditions have been met:

   - Required personal protective equipment is being worn by both Pilot and all passengers.
   - Line manager approval is obtained prior to the change in type of flight activity.
   - Pilot and aircraft are carded for the special-use activity, as verified by either the Dispatcher or the Helicopter Manager.
   - The Dispatcher or other point-of-contact reviews the unit aerial hazard map and relevant information on area of operations is relayed to the Pilot or Helicopter Manager.

   These requirements are waived when a life-threatening situation exists on the ground, and intervention or surveillance by the occupants of the helicopter will avert the situation. Such situations shall be documented by the Helicopter Manager or Flight Manager, and a report submitted to the unit aviation manager.

   - The Pilot performs a high-level reconnaissance above 500' AGL of the area to identify hazards prior to descent to low level.

2. **Special Use.** Special use activities are described as operations involving the utilization of helicopters which require special considerations due to their functional use. This may require deviation from normal operating practices where authorized. Special Pilot qualifications and techniques, special aircraft equipment, and personal protective equipment are required to enhance the safe transportation of personnel and property.

   Special use flight includes the following flight missions:

   - Flights conducted below 500 feet AGL
   - Water or retardant application
   - Parachute delivery of personnel or cargo (not usually performed utilizing helicopters)
   - Helicopter Coordinator and Air Tactical Group Supervisor operations
   - Aerial ignition activities
   - Air tanker Coordinator operations (not usually performed in helicopters)
   - External Loads (Class B, C, or D as defined in 14 CFR 133
   - Night Vision Goggle operations
   - Hoversite/Autosurvey
   - Rappelling
   - Short Haul
   - Aerial Capture, Eradication, and Tagging Of Animals (ACETA)
   - Offshore vessel or platform landings
   - Toe-in, single-skid and step-out landings (prior authorization or exemption required)
   - Takeoff or landing requiring special techniques due to hazardous terrain, obstacles, pinnacles, or surface conditions

IV. Specific Missions.

A. Law Enforcement.

See Chapter 16 for discussion of law enforcement-specific missions and operational requirements.

B. Search and Rescue.

See Chapter 17 for discussion of search and rescue-specific missions operational requirements.

C. Aerial Ignition.

All aerial ignition operations shall be conducted in conformance with the Interagency Aerial Ignition Guide.

D. Rappelling.

The use of rappelling from helicopters requires agency approval. Training, qualification, and certification shall be in accordance with the current copy of the Interagency Helicopter Rappel Guide. Tactical use of rappelling will be determined by the individual agency.

E. Shorthaul.
The use of helicopter shorthaul requires agency approval. Training, qualification, and certification shall be in accordance with the current copy of the Interagency Helicopter Shorthaul Guide. Tactical use of helicopter shorthaul will be determined by the individual agency.

F. Aerial Capture, Eradication, and Tagging of Animals (ACETA).
ACETA operations are conducted primarily by agencies within the United States Department of the Interior. For these operations, refer to DOI Handbook "Aerial Capture, Eradication, and Tagging Of Animals (ACETA)." Agencies within DOI may have additional internal guidance. Other agencies conducting ACETA operations may wish to utilize the DOI material as guidance.

G. Media.
Transportation of media personnel may be conducted in government helicopters provided media personnel meet the definition of "official passengers" (see Chapter 10). Refer to agency-specific direction concerning level of approval needed to conduct flights with media on board. Media personnel must adhere to all requirements (for example, personal protective equipment).

H. External Load Operations.
External load operations include water bucket operations, seeding, sling loads using either normally-configured leadline/swivel/cargo hook or the remote electric hook and long line. When planning an operation which will involve external loads, the personnel requirements and operational procedures outlined in Chapter 11, Cargo Transport, shall be followed. Chapter 11 also includes recommendations for the transport of material or equipment when standard methods cannot be utilized.

I. End Product Contracts.
End Product Contracts are contracts that may use aircraft but are primarily written to obtain another end product or service. This is usually acres seeded, horses gathered, acres sprayed, etc. The use of aircraft is incidental to the product or services contracted. Refer to agency policy for further information.

V. Project Flight Planning and Scheduling Process.

Preflight planning by all participants in the intended mission serves to reduce the risk inherent in any aviation mission to acceptable levels. Levels of aviation safety and efficiency can be significantly improved by comprehensive planning of both one-time and recurrent aviation projects. Individuals who have a need to initiate or participate on a flight mission should consult their agency's manual and handbooks for the specific process and procedures to be followed.

The following is a discussion of recommended procedures for project operations, with Sections V.J through V.N applicable to both project and incident operations. Other processes for incident operations are described in Section VI of this chapter and in Chapter 15.

A. Elements of the Process.
There are certain common elements involved in any planning and aircraft scheduling process. This process should consist of:

- An Aircraft Flight Request/Schedule submitted by the user requesting the mission (see Exhibit 3-1);
- A cost-analysis performed by the Dispatcher or individual scheduling the flight;[3]
- A Dispatch/Aviation Manager Checklist and Hazard Analysis performed by the requester (assigned Helicopter or Flight Manager), the scheduler (the Dispatcher and/or Aviation Manager), and, for complex missions, the Pilot (see Exhibit 3-2);
- Higher-level approval(s) which may be required; [4]
- Standard Aircraft Safety Briefing completed by the Helicopter Manager or Project Flight Manager and Pilot just prior to the flight (see Chapter 10);
- A post-flight evaluation which identifies any problems encountered so that corrective action can be taken on future flights.

B. Frequency of Completion.

1. **One-Time Missions.** The elements of the flight planning and scheduling process described above should be addressed or completed for each flight mission.

2. **Recurrent Special Use Projects and Operations.** For recurrent flight missions of a similar nature in a special-use environment, scheduling and approval requirements can be reduced by the completion of a Project Aviation Safety Plan (see Exhibit 3-3 at the end of this chapter for an example).

   a. Purpose. The purposes of a Project Aviation Safety Plan is to:

   - Ensure that recurrent flights in special use environments (primarily flight below 500' AGL) are adequately pre-planned and that management is aware of, and has approved flight in the special use environment.
   - Document the information required on the Aircraft Flight Request form and the Dispatch/Aviation Manager Checklist and Hazard Analysis for successive,

[3] Note that OMB Circular A-126 requires a formal cost-analysis only for point-to-point ("administrative travel") flights. Performance of a cost-analysis of different makes and models of helicopters, as well as of various vendors or other aircraft sources available, for all flights is highly recommended. Refer to agency-specific direction concerning requirements for a cost-analysis of mission-type flight. The Interagency Helicopter Approval Performance Index (IHAPI) for Type 1 and 2 CWN helicopters is recommended.

[4] Agency-specific direction may require line manager approval for special use flights. Administrative travel flights with senior federal officials on board require higher approvals and documentation (see OMB Circular A-126).

similar missions. The Project Aviation Safety Plan can thus relieve the user from completing repetitive information (hazards, communications, etc.) on the Flight Request each time a flight is made to the same area(s). For scheduling and manifesting purposes, the Aircraft Flight Request is completed for each use. However, only that information not contained in the Project Aviation Safety Plan is required (for example, Date/Time of Flight, Manifest, etc.)

b. Applicability. The Project Aviation Safety Plan should be completed for all recurrent special-use flights for the same project to the same areas(s). Examples are wild horse counting or herding, bald eagle survey, communication site repair, etc.

c. Responsibilities and Requirements for Completion. The local Aviation Manager and Project Aviation Manager are jointly responsible for determining the need for a Project Aviation Safety Plan. Plans are generally completed in the following sequence:

(1) Project Aviation Manager and/or assigned Helicopter or Flight Manager completes the majority of plan information;
(2) Dispatcher completes flight following and emergency search and rescue information;

(3) An aerial hazard analysis is completed jointly by the Project Aviation Manager, the Helicopter Manager, the Dispatcher, and the unit Aviation Manager;

(4) Unit Aviation Manager reviews and recommends;

(5) Line Manager or designee reviews and approves. Note that approval is not automatic. The Manager may choose to make a risk management decision not to conduct the operation as planned, or not to conduct the mission at all.

d. Content. At a minimum, the plan shall consist of those elements depicted in Exhibit 3-3 at the end of this chapter.

e. Routing and Filing. After approval by line management, the plan itself is maintained in the Dispatch Office for reference during flight.

f. Annual Review and Update. The Plan should be reviewed annually by the unit Aviation Manager for currency of information, with at least annual re-approval by line management. Updates should be performed as necessary. More frequent review and update may be necessary if the type of mission, location, etc., change.

C. Aircraft Flight Request/Schedule Preparation.
The following is a suggested format for ensuring all elements of the flight request and scheduling process are met. All flights should be requested and scheduled using the following procedures.

- The Aircraft Flight Request/Schedule (see Exhibit 3-1 at the end of this chapter) is completed jointly by the Helicopter or Flight Manager assigned and the Dispatcher or Aviation Manager;

- The Dispatcher and/or unit Aviation Manager complete the Dispatcher/Aviation Manager Checklist (see Exhibit 3-2);

- For special use flights, a Hazard Analysis (see Exhibit 3-2) is completed jointly by the Helicopter Manager or Flight Manager and the Dispatcher or Aviation
- Manager;

- For Cooperator (Civil) or Other-Government-Agency aircraft, refer to agency-specific direction on the approval process. For Military aircraft, Refer to Military Use Handbook for ordering and approval process. Gaining approval for use of these types of aircraft is the joint responsibility of the Dispatcher, unit Aviation Manager, and the individual requesting the aircraft.

- The Aircraft Flight Request/Schedule must be relayed to all personnel and offices involved in the flight: other dispatch offices involved, the Pilot, and the Helicopter Manager or Flight Manager. This may be accomplished by automated flight planning and transmission on electronic mail, by telefax transmission, or by telephone. The Helicopter Manager is responsible for relaying flight specifics to other passengers.

D. Manifest.

All personnel on the manifest must meet the definition of “air crewmember,” or “authorized passenger” and “official passenger” (see Glossary). Chapters 7 and 10 and Appendix A contain additional guidance in this area.

E. Aircraft Capability and Selection Factors.

To complete any helicopter mission safely and efficiently, the aircraft must have passenger/cargo carrying capacity and sufficient power capability for anticipated temperature(s) and elevation(s).

Aviation Managers and Dispatchers must be trained in and knowledgeable of helicopter capabilities and limitations in order to schedule the proper aircraft.

During the scheduling process for project flights, the intended mission shall always be discussed in depth with the vendor, and preferably with the Pilot assigned to the mission.

It is essential that pilots perform load capability calculations. Requirements are discussed fully in Chapter 7. Appendix A contains instructions and procedures for completion of the load calculation and manifest forms.

When selecting helicopters, several factors must be taken into consideration to determine an aircraft appropriate for the mission.

1. **Capabilities.** Each aviation management office should maintain a current copy of the specification of helicopters commonly used and which summarizes performance capabilities of those aircraft. This data may be used for program planning, but shall not be used to perform the actual helicopter load calculation prior to takeoff.

2. **Limitations.** Limitations to consider in operational planning may include, but are not limited to:

   - Number of passenger seats;
   - Aircraft performance given the density altitude at takeoff and landing sites;
   - Skid or wheel footprint given the size of landing pad;
   - Radio equipment capability (does helicopter have VHF-FM equipment?);
   - Cargo-carrying equipment (does helicopter have cargo hook or remote electric hook/longline equipment, cargo compartment, etc.?).

3. ➔ **Anticipated Environmental Conditions.** All environmental factors should be considered when selecting an appropriate helicopter. Temperatures, wind speed and direction, visibility, and local weather anomalies can impact aircraft capabilities, mission profile, and fuel burn.

F. Aircraft Cost-Comparison Analysis.

1. **Requirements.** OMB Circular A-126 requires that a cost analysis and comparison of different aircraft and vendors be performed for point-to-point administrative travel flights. States may have similar requirements.

   It is recognized that the majority of helicopter flights involve non-point-to-point, mission-type flight for which this cost-comparison may not be required. If a helicopter flight falls within the point-to-point definition, then a cost-comparison that meets OMB Circular A-126 requirements must be performed.

   It is also recommended that a cost-comparison be completed for helicopter mission flights. Often a helicopter that has a more expensive hourly rate will prove to be cheaper due to a variety of factors, including higher cruise speed during ferry, greater load-carrying capability, and other factors.

2. **Documentation.** The comparison, and the reason for selecting any aircraft other than the least-cost aircraft (for example, safety considerations, cannot meet ordered time frames, etc.) should be documented in writing.

G. Scheduling Aircraft with Vendors.
The following guidance applies primarily to project flights.

1. **Documentation of Contacts.** Once a preliminary flight plan has been prepared and a cost-comparison performed, the Scheduling Dispatcher may contact a vendor to determine availability. These contacts may be documented on a Resource Order Form or other appropriate format.

2. **Vendor Review of Flight Request and Preliminary Flight Plan.** During the scheduling contact, the preliminary flight plan must always be reviewed with the vendor and preferably the Pilot who will fly the mission. Scheduler should relay an accurate itinerary and manifest, along with the desired sequence of events. Flight plan should be amended at this time, subject to aircraft limitations, refueling needs, or other concerns identified by the vendor. More complex projects may require in-person meetings with the vendor to plan the flight or project correctly.

H. Obtaining Approved Pilots and Aircraft.

During the scheduling process, the individual scheduling the aircraft must ensure that the vendor provides approved pilots and aircraft. Refer to Chapter 5 for an explanation of the Pilot and aircraft carding and approval process.

Aircraft and pilots shall not be scheduled or dispatched unless it is verified that both are approved and current for the mission. Note that use of other-government agency, military, and civil aircraft requires approval but not necessarily carding.

Initially it is the responsibility of the Dispatcher to verify that the equipment and pilots are carded. This may be done by reference to the agency's vendor source list. The Dispatcher should then verbally verify with the vendor that the Pilot(s) and aircraft are approved and that the Pilot is current for the intended mission.

I. Obtaining Necessary Equipment.

It is essential that the individual submitting the Flight Request give sufficient information to ensure any specialized mission equipment requirements are met, especially for equipment which is to be supplied by the vendor. Local operating plans should specify procedures for obtaining agency supplies and equipment, (for example, handheld radios, external load equipment, and personal protective equipment).

J. Analyzing Known Aerial Hazards.

The special use flight profile of low altitude flight places people and equipment in a higher risk area of potential wire strikes, mid-air collisions with other low flying aircraft, and impact with obstacles protruding beyond normal surface features.

To mitigate this risk, aircraft pilots, helicopter and flight managers, and passengers must be made aware of obstacles which they may encounter during low-level operations.

Known aerial hazards must be identified and analyzed during the flight planning process. Managers must be made aware of the associated risk and make a risk management decision to accept those risks, provided of course they are properly mitigated, to require the mission to be changed to avoid identified risks, or to cancel the flight.

1. **Local Unit Hazard Maps.** Known flight hazards must be identified on the unit's "Known Aerial Hazard Map." Managers of each permanent helibase shall obtain and post a flight hazard map.

   a. **Purpose.** The purpose of aerial hazard mapping is to pre-identify aerial hazards within and/or near local administrative boundaries so that in-flight safety awareness by the Pilot, the helicopter manager, and passengers is achieved.

   b. **Applicability.** Each unit shall maintain a current aerial hazard map in each location where flight planning, flight tracking, and aircrew dispatch occur. The master map should be located in the office where flight planning and scheduling is accomplished (for example, in the dispatch office). For units without dispatch offices, the hazard map should be located where flights are normally planned and scheduled. Maps shall also be maintained at permanent helibases.

   c. **Responsibility and Requirements for Completion.** Unit Aviation Managers are responsible for ensuring the development and update of Known Aerial Hazard Maps. All personnel are responsible for reporting aerial hazards to the designated point-of-contact for inclusion on the Hazard Map.

      Particular emphasis should be placed on identifying those obstructions not normally indicated on government-published flight maps: old mining wires, stream flow gauges, areas of extreme turbulence, etc.

      Medical facilities (hospitals, clinics, etc.) with landing areas or heliports should be shown on the hazard map. Those with air-transport ("life flight") capability should be so indicated.
      If not already marked, all airports, landing strips, and heliports should be added.

      Each Flight Request or Resource Order for non-point-to-point mission-type flights, regardless of altitude, must have known hazards identified or a hazard map attached.

   d. **Instructions for Completion.** Potential hazards and emergency services as identified above must be marked. Method of marking is optional, but may be determined by agency-specific direction.

2. **Hazard Maps on Large Incidents.**

   a. ➔ **Aviation Manager Responsibility.** Prior to the start of the second full operational period, the Dispatcher shall furnish the incident air operations staff and all aircraft operating bases with a copy of the current local aerial hazard map for the area surrounding the incident, as well as the areas surrounding any aircraft operating bases.

b. Air Operations Branch Responsibility. Upon arrival at the incident, the Air Operations Branch Director or designee shall make an aerial survey of incident operations airspace and shall post a detailed Aerial Hazard Map at all aircraft operating bases. This map is usually the one received from dispatch, with any amendments or additional hazards observed added.

During the initial stages of a large incident, the Air Operations Branch Director position may be filled by the Operations Section Chief or by one of the subfunctions of the branch (for example, by a Helibase Manager). It shall be the responsibility of that individual to perform the above survey. The local unit Aviation Manager should ensure compliance.

Hazards shall be reviewed each morning during the briefing of pilots and helibase support personnel.

3. In-Flight Hazard Identification. To reduce wire strike potential, it is essential that an on-site risk assessment be conducted prior to all low-level flights. All low-level flights require a thorough, high-level map reconnaissance of the route to be flown. Transition to an unplanned low-level flight mode should only be conducted when determined to be critical to the safety of the operation. Extreme caution shall be exercised.

K. Airspace Coordination.
Personnel involved in helicopter operations shall follow all processes and procedures outlined in the Interagency Airspace Coordination Guide. Positions such as the Air Operations Branch Director, Air Support Group Supervisor, Air Tactical Group Supervisor, Helibase Manager, and Project Aviation Manager are all responsible for:

- Evaluating the airspace surrounding the incident, to include but not limited to:
    - Identifying Military Training Routes, Special-Use Airspace, VFR Airways, etc., which may impact air operations;
    - Identifying these areas on the Incident or Project Hazard Map; and,
    - Ensuring all pilots are briefed on these hazards.
- Ensuring that a Temporary Flight Restriction (TFR) is in place when appropriate;
    - NOTAMS are Advisable for some project work (Horse Herding, Construction Slinging, etc.)
- Reporting any violations through the incident/hazard reporting system;
- Ensuring the TFR is canceled when no longer necessary.

L. Flight or Driving Time and Duty Day Limitations.
For safety purposes, flight or driving time and duty day limitations must be taken into account when planning flights. Care should be taken that limitations will not be exceeded. For contractor personnel, limitations are stated in the procurement document and must be followed.

M. Personal Protective Equipment (PPE) and Aviation Life Support Equipment (ALSE).
Requirements for personal protective equipment are determined by the type of flight. The type of ground operation being performed also will determine PPE required (for example, hover hookup, working around operating helicopters). These requirements are discussed in Chapter 9.

N. Flight Following.
Identification of the means of flight following and the methods by which it will be accomplished is an essential part of the flight planning process. Requirements and operational procedures are discussed in Chapter 4.

VI. Fire Aircraft Aviation Safety Plans.
Units shall have Fire Aviation Safety Plans when engaging in incident aviation operations. These plans should include an Operations Plan for exclusive-use contract and CWN helicopter crews assigned to the unit. When utilizing the helicopter for project missions, processes and procedures described in the preceding section should be followed.

The Resource Order is used to order or dispatch tactical or reconnaissance/detection fire helicopters on initial attack on the local unit. Appendix A contains an optional form, Flight Order: Helicopter, for use by the Helicopter Manager when receiving flight information from a dispatch office.

During incident helibase operations, other formats are used to schedule missions (see Appendix B).

Sections V.J through V.N in the previous section are applicable to both project and incident operations.

VII. Pre-Flight Briefings.
A briefing covering both the specifics of the intended mission and helicopter safety is required. See Chapter 10 and Appendix A for additional information.

VIII. Post-Flight Evaluation.
Just as the pre-flight briefing is deemed essential to the success of a mission, the post flight evaluation of a flight is likewise important in order to correct problems encountered.

Exhibit 3-1: Example of Aircraft Flight Request/Schedule (Front)

AIRCRAFT FLIGHT REQUEST/FLIGHT SCHEDULE

CHANGE #:

1. INITIAL REQUEST INFORMATION

INITIAL DATE/TIME:	TO/FROM:	PHONE NUMBER:	COST-ACCOUNT/MANAGEMENT CODE(S):	BILLEE CODE (OAS A/C only)

CHECK ONE: ( ) Point-to-Point Flight ( ) Mission Flight DESIRED A/C TYPE: ( ) Helicopter ( ) Airplane

MISSION OBJECTIVE/SPECIAL NEEDS:

6. AIRCRAFT INFORMATION FAA N#:

FLIGHT SCHEDULE #:

MAKE/MODEL: # SEATS:

COLOR:

VENDOR:

PHONE #:

PILOT(S):

2. PASSENGER/CARGO INFORMATION: INDICATE BY ASTERISK WHICH PASSENGER LISTED BELOW IS CHIEF-OF-PARTY.

NAME/TYPE OF CARGO	LBS OR CU FT	PROJECT ORDER/ REQUEST NO.	DEPT ARPT	DEST ARPT	RETURN TO	NAME/TYPE OF CARGO	LBS OR CU FT	PROJECT ORDER/ REQUEST NO.	DEPT ARPT	DEST ARPT	RETURN TO

3. FLIGHT ITINERARY (For Mission-Type Flights, provide points of Departure/Arrival and attach Map With Detailed Flight Route and Known Hazards Indicated)

DEPART WITH			DEPART FROM			ENROUTE	ARRIVE AT			DROP OFF		KEY POINTS	INFO RELAYED
Date	No. Pax	Lbs.	Airport/Place	ETD	ATD	ETE	Airport/Place	ETA	ATA	No. Pax	Lbs	Drop-Off Points, Refueling Stops, Flight Check-ins, Pickup Points	TO/FROM
						-							
						-							
						-							
						-							
						-							
						-							
						-							

4. FLIGHT FOLLOWING

( ) FAA IFR ( ) Satellite

( ) FAA VFR With Check-in Every ____ Minutes To
( ) FAA or ( ) Agency

( ) Agency VFR With Check-in via radio Every ____ Minutes
Frequency(ies):

5. METHOD OF RESOURCE TRACKING:

( ) PHONE ( ) RADIO

( ) To Scheduling Dispatcher @ ____________ (PHONE NUMBER)

( ) Prior to Takeoff ( ) Each Stop Enroute ( ) Arrival At Destination

( ) To: ____________ (OTHER OFFICE) @ ____________ (PHONE NUMBER)

7. ADMINISTRATIVE

Type of Payment Document:
( ) OAS-23 or ( ) OAS-2
( ) FS 6500-122
OTHER:

Route Document To:

8. REVIEW (if applicable)

___ Hazard Analysis Performed

___ Dispatch/Aviation Mgr Checklist

___ Other:

9. CLOSE-OUT CLOSED BY:

Exhibit 3-2: Example of a Hazard Analysis and Dispatcher/Aviation Manager Checklist

HAZARD ANALYSIS AND DISPATCH/AVIATION MANAGER CHECKLIST

I. MISSION FLIGHT HAZARD ANALYSIS (fire flights exempt provided a pre-approved plan is in place). The following potential hazards in the area of operations have been checked, have been identified on flight itinerary map, and will be reviewed with Pilot and Chief-of-Party prior to flight:

- ☐ Military Training Routes (MTRs) or Special-Use Airspace (MOAs, Restricted Areas, etc.)
- ☐ Areas of high-density air traffic (airports); Commercial or other aircraft
- ☐ Wires/transmission lines; wires along rivers or streams or across canyons
- ☐ Weather factors: wind, thunderstorms, etc.
- ☐ Towers and bridges
- ☐ Other aerial obstructions:
- ☐ Pilot flight time/duty day limitations and daylight/darkness factors

  SUNRISE: ___________

  SUNSET: ___________
- ☐ Limited flight following communications
- ☐ High elevations, temperatures, and weights:

  MAX LANDING ELEV (MSL): _______________

  MIN. FLIGHT ALTITUDE AGL: _______________
- ☐ Transport of hazardous materials
- ☐ Other: _______________________________

II. DISPATCHER/AVIATION MANAGEMENT CHECKLIST

- ☐ Pilot and aircraft carding checked with source list and vendor; carding meets requirements;
- ☐ OR, Necessary approvals have been obtained for use of uncarded cooperator, military, or other-government agency aircraft and pilots
- ☐ Check with vendor that an aircraft with sufficient capability to perform mission safely has been scheduled
- ☐ Qualified Aircraft Chief-of-Party has been assigned to the flight (noted on reverse)
- ☐ All DOI passengers have received required aircraft safety training;
- ☐ OR, Aviation manager will present detailed safety briefing prior to departure;
- ☐ Bureau Aircraft Chief-of-Party will be furnished with a Chief-of-Party/Pilot checklist and is aware of its use
- ☐ Means of flight following and resource tracking requirements have been identified
- ☐ Flight following has been arranged with another unit if flight crosses jurisdictional boundaries and communications cannot be maintained
- ☐ Flight hazard maps have been supplied to Chief-of-Party for nonfire low-level missions
- ☐ Procedures for deconfliction of Military Training Routes and Special-Use Airspace have been taken
- ☐ Chief-of-Party is aware of PPE requirements.
- ☐ Cost analysis has been completed and is attached
- ☐ Other/Remarks:

III. APPROVALS

Note: Reference Handbook 9420 for approval(s) required.

A. MISSION FLIGHT: HAZARD ANALYSIS PERFORMED BY:

____
Chief-of-Party Signature

B. MISSION FLIGHT: HAZARD ANALYSIS REVIEWED BY:

____
Dispatcher Or Aviation Manager Signature Required

C. IF NON-FIRE, ONE-TIME (NON-RECURRING), SPECIAL-USE MISSION, SIGNATURE OF LINE MANAGER IS REQUIRED **:

_______________________ **DATE:** __________

D. THIS FLIGHT IS APPROVED BY (Authorized Signature):

_______________________ **DATE:** __________

*** For recurring Special-Use Missions, signature is required on Special-Use Air Safety Plan, and not required here.*

Exhibit 3-3: Elements of a Project Aviation Safety Plan

Supervision. Identify qualified Project Aviation Manager and/or Helicopter Manager

Project name and Objectives. Brief description of the project its objectives.

Justification. Indicate why the project will require the use of aircraft in special-use flight conditions/environments and list the most practical alternative for completion of the project.

Project Dates. Dates project will begin and end. These may be approximate, since exact dates of flights may not be known at the beginning of the year.

Location. Enter descriptive location and include a map clearly showing area where flights will be made; aerial hazards must be clearly indicated.

Projected Cost of Aviation Resources. Enter cost coding, projected flight hours and cost, projected miscellaneous expenses (overnight charges, service truck mileage, etc.), and total cost of project.

Aircraft. If known, identify company(ies) that own(s) aircraft anticipated to be used, registration number, aircraft type, date of aircraft data card expiration and missions for which aircraft is approved.

Pilot. If known, identify pilot(s), type of aircraft qualified in, type of missions qualified for and pilot card expiration date.

Participants. List individuals involved in flights, their qualifications (Helicopter Manager, Passenger, Helibase Manager, etc.), dates of last aviation training, and include individuals' project responsibilities.

Flight Following and Emergency Search-and Rescue. Identify the procedures to be used.

Aerial Hazard Analysis. The project Aviation Manager develops an aerial hazard analysis with attached map. Flights made in confined areas (eg. deep, narrow canyons) require that a prior ground and/or aerial survey of hazards be made. A copy of the hazard map shall be provided to the pilot prior to any project flights. The necessary temporary flight restrictions and coordination with the Federal Aviation Administration and, if appropriate, military authorities, must be accomplished prior to project flights.

Protective Clothing/Equipment. Identify the protective equipment and clothing necessary for the particular operation. Survival equipment (extra water, flotation devices, sleeping bags, etc.) beyond the normal PPE complement may be required.

Load Calculations. The pilot is responsible for the accurate completion of load calculations. Trained aviation personnel shall ensure that aircraft scheduled are capable of performing the mission(s) safely and within the capabilities of the aircraft selected. The Helicopter Manager shall ensure that manifests and load calculations are completed properly.

➔ **Appropriate Level of Response** - Supervisors and/or line officer's approval signature.

Exhibit 3-4: Rapid Risk Assessment

A. Is this flight necessary?
B. Who is in charge?
C. Are all hazards identified and have you made them known?
D. Should you stop the operation or flight due to change in:
  1) Conditions?
  2) Weather?
  3) Communications?
  4) Turbulence?
  5) Confusion?
  6) Personnel?
  7) Conflicting Priorities?
E. Is there a better way to do it?
F. Are you driven by an overwhelming sense of urgency?
G. Can you justify your actions.?
H. Are there other aircraft in the area?
I. Do you have an escape route?
J. Are any rules being broken?
K. Are communications getting tense?
L. Are you deviating from the assigned operation or flight?