



Kaibab National Forest

2009

Pittman Valley Helibase

Helicopter Operations Plan

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Signatures and Approvals

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1.0 Introduction

1.1 OBJECTIVES

The objectives of the Pittman Valley Helibase Helicopter Operations Plan are to:

- Promote safe, cost-effective, and efficient helicopter services in support of agency and interagency goals and objectives.
- Establish helicopter operations positions and designate the responsibilities, authority, and accountability of each position.
- Identify activities that require helicopter use and provide procedures and controls for their accomplishment.
- Provide orientation and direction for visiting helicopter crews and pilots.
- Develop an attitude of safety toward the risks involved in flying helicopters.

1.2 FOREST AVIATION PROGRAM

Aviation operations on the Kaibab National Forest consist of one exclusive-use helicopter contract (90 days), and occasional use of Call-When-Needed (CWN) or Aircraft Rental Agreements (ARAs) reconnaissance fixed-wing and rotor-wing aircraft.

Helicopter operations on the Kaibab N.F. are conducted with one exclusive-use helicopter contract. The Williams Ranger District maintains and staffs an exclusive-use helicopter module/rappel crew. This crew provides initial attack coverage for the three ranger districts of the Kaibab National Forest, as well as Arizona State lands Department, and the Grand Canyon National Park. The helicopter program also assists with regional and national incidents throughout the contract period.

1.3 HELICOPTER USE

Helicopter operations are primarily used for:

FIRE MANAGEMENT ACTIVITIES: The majority of helicopter flight time on the Forest is for fire management. This includes fire suppression and logistical support of

wildland fires, aerial ignition, support of management ignited fires, and support of wildland fires used for resource benefit.

RESOURCE MANAGEMENT: Helicopters are used on the Forest to support resource management projects. These projects vary but include such activities as wildlife management, range conservation, radio repeater maintenance, seeding, or transport of building materials or personnel.

ADMINISTRATIVE TRAVEL: On occasion, helicopters are used for administrative purposes such as orientation and reconnaissance, site visits, or transport of personnel to remote locations.

1.4 LOCAL CONDITIONS

Topographic, weather, and fire conditions vary across the Forest. Local conditions can have a dramatic impact on helicopter operations. Most helicopter use occurs from late spring (April) through early fall (September). The district is relatively flat with volcanic mountains rising from the forest floor of 7,000 feet to an elevation of just over 10,000 feet. Landscapes across the District include pinyon/juniper expanses, ponderosa pine forests, and open meadows of grass and sagebrush. Winter can be cold and snowy in northern Arizona. Summers are generally warm – 70 to 80 degrees F. at higher elevations, 90+ degrees in the communities and lower elevations.

TOPOGRAPHY: The geography of the area is relatively flat with volcanic mountains rising from the forest floor of 7,000 feet to an elevation of just over 10,000 feet. Landscapes across the District include pinyon/juniper expanses, ponderosa pine forests, and open meadows of grass and sagebrush. On the Forest, three wilderness areas exist. Elevations vary from 5,000 to nearly 11,000 feet and slopes of over 60% are not uncommon. Turbulence associated with mountainous topography is common and can make helicopter use much more difficult.

CLIMATE: Winter can be cold and snowy in northern Arizona. Summers are generally warm – 70 to 80 degrees at higher elevations, 90+ degrees in the communities and lower elevations. Snow covers most the Forest's higher elevations from November through April. Hot and very dry conditions contribute to very high density altitude (DA) adjustments for helicopter operations. An occasional surge of moisture will come in during this period and will produce a burst of lightning activity with an increase in RHs, and light to moderate amounts of precipitation.

Starting late June and as late as mid-July, the annual monsoon moisture flow begins in the Southeast portion of the State, and spreads North and West. Temperatures during the monsoon remain hot and fairly dry through mid-morning, and then with the Southeasterly moisture flow, surface heating and orographic lifting results in afternoon cumulus buildups, lightning and rain. Often these develop into intense thunderstorms with high winds, severe turbulence, rain and hail. This pattern will hold through most of August, and at times into September. There is usually enough precipitation accumulation by late July that we are out of significant fire danger, and the exclusive use contract expires.

LOCAL FUELS AND FIRE BEHAVIOR: Fuels within the Kaibab National Forest vary from sagebrush and grasslands to mountain brush, oak, ponderosa pine, and mixed-conifer. Depending on conditions, fires range from single tree to large project fires. We have also experienced an increase in wildland urban interface as the populace continues to spread out towards less populated areas bordered by forest lands.

KAIBAB FIRE HISTORY: The historical fire occurrence interval for Ponderosa Pine forests in the mountain ranges of the Kaibab is 2 to 10 years. The large project fires on the forest are typically wind driven fires that move in the ponderosa pine and mixed conifer stands. Fires can move through fine fuels and grasses with moderate to high rates of spread. Mixed-conifer fires often spread by spotting and creeping through dead/downed heavy fuels. There are some fire scars on the forest that have high concentrations of dead standing snags. Extra precautions should be taken when conducting helicopter operations and suppression in these areas.

LOCAL THRESHOLDS: Combinations of any of these three factors can greatly increase fire behavior:

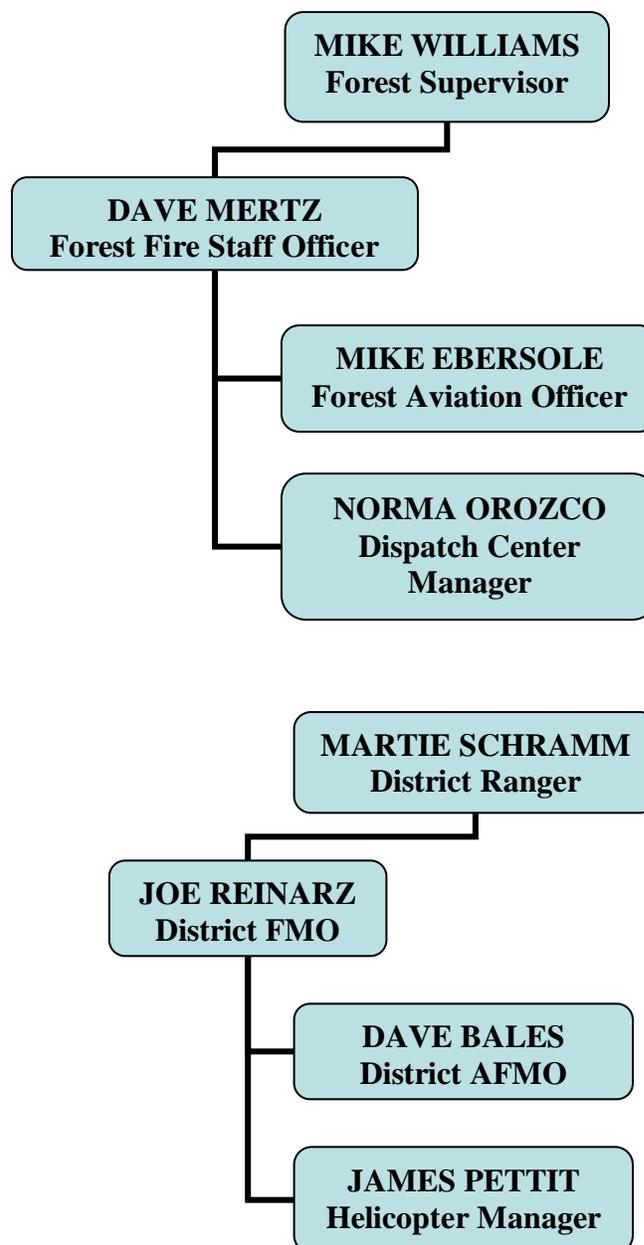
- Windspeed over 10 miles/hour.
- RH less than 18 %.
- Ten Hour Fuels less than 12.
- Haines Index 5 or 6.
- Energy release components over 68.

2.0 Organization and Responsibility

2.1 FOREST AND DISTRICT AVIATION LEADERSHIP

The Kaibab's Forest Aviation Officer reports directly to the Forest Fire Management Program Manager, and is responsible for all Forest aviation operations. The FAO's primary duties and responsibilities are outlined in the Forest Aviation Plan.

Forest and District aviation leadership positions are indicated below:

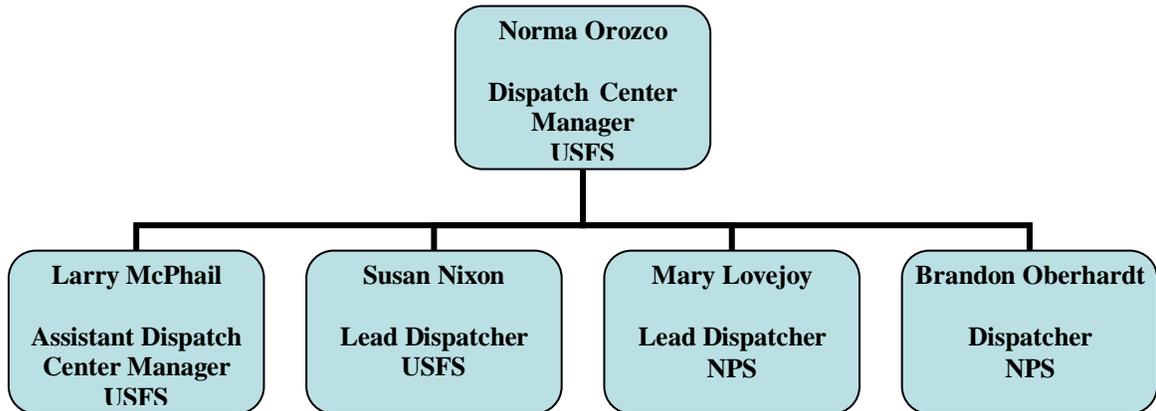


2.2 DISPATCH ORGANIZATION

The Williams Interagency Dispatch Center (WIDC) is the primary dispatch center for the Kaibab National Forest, Grand Canyon National Park, and the Hualapai Indian Reservation. The primary aviation related duties of the dispatch center are:

1. Orders, schedules and coordinates all flights.
2. Implements flight-following/flight planning for all aircraft during Forest related missions.
3. Initiates action as stated in the Aircraft Incident/Accident Response Guide for the Forest in case of lost or overdue aircraft.
4. Annually reviews/updates the Aircraft Incident/Accident Response Guide.
5. Mobilizes aircraft for use in search and rescue operations.
6. Initiates Temporary Flight Restrictions (FAR 91.137) during fires or other incidents as requested by an Incident Commander or other appropriate overhead position.
7. Briefs the Forest Aviation Officer on specific missions and flight hazards.
8. Advises the Forest Aviation Officer of all aviation activity on the Forest.
9. Requests procurement action for all Call-When-Needed aircraft and aviation support services.

Williams Interagency Dispatch Center Organization Chart



2.3 HELITACK / HELIBASE ORGANIZATION

The Pittman Valley helitack crew and helibase are managed by the Helicopter Program Manager. Helibase organization is assigned on a daily basis as needed for projects or incidents by the Helitack Supervisor, Assistant Supervisor, or other qualified individual delegated the authority. There is a roster posted at the helibase showing a daily listing of which crewmembers are assigned to the helicopter for initial attack and who is designated to drive the support vehicles if needed.

HELITACK CREW SUPERVISOR: The Helicopter Program Manager reports to the Williams Ranger District's Fire Management Officer. The Supervisor manages the helitack crew and helibase. During the contract period, the primary duties of the Helitack Supervisor include:

1. Day-to-day administration of the Exclusive-Use Helicopter Contract for the Forest
2. Conducting helicopter operations according to established operational procedures and safety standards.
3. Updating the flight hazard maps and Helicopter/Helibase Operation plan annually by April 1st.
4. Briefing pilots or helicopter managers concerning local operational procedures and safety concerns, mission requirements, and local hazards.
5. Conducting formal and informal training as needed.

ASSISTANT HELITACK SUPERVISOR: Assists the Helitack Supervisor in the management of the helitack crew personnel, equipment and helicopter operations, and the helibase. When the Helitack Supervisor is absent, the Assistant will assume all the responsibilities of the Supervisor.

LEAD HELITACK CREWMEMBER: The lead crewmembers are actively involved with the training and management of the helitack crew. They lead the crew in fire management and project related activities. When assigned they perform various helibase, helispot, and helicopter management duties. The Lead Crewmembers directly supervise the crew in the absence of both the Supervisor and Assistant.

HELITACK CREWMEMBERS: Crewmembers perform fire management and project related duties. They are directly involved with helicopter operations. They are responsible for the safe and efficient transport of personnel and cargo.

2.4 CONTRACT ADMINISTRATION

The exclusive-use helicopter contract is solicited through the Southwest Region Aviation Contracting Officer.

CONTRACTING OFFICER (CO): The CO is the government official with the contracting authority under which the contract was signed. Ultimate responsibility is vested with the CO.

CONTRACTING OFFICER'S REPRESENTATIVE (COR): The COR is delegated administrative authority by the CO and is authorized to take any or all actions as delegated by the CO of the contract. The Helicopter Program Manager and their Assistant will be the designated CORs for the exclusive-use contract.

PROJECT INSPECTOR (PI): The PI is appointed by the COR and assist in carrying out the functions of the COR. They are responsible for the day-to-day management of the helicopter and enforcement of contract provisions.

3.0 Helicopter Operations

3.1 PRIMARY PROCEDURAL DOCUMENTS

Personnel involved with helicopter operations will adhere to the operational procedures as outlined in the Interagency Helicopter Operations Guide (IHOG), Interagency Helicopter Rappel Guide (IHRG), Interagency Aerial Ignition Guide (IAIG), Helicopter/Helibase Operations Plan, and applicable FAR's. Forest Service personnel will refer to the Forest Service 5700 Manual.

ADDITIONAL PROCEDURAL DOCUMENTS:

1. Interagency Airspace Coordination Guide
2. Interagency Helicopter Management Training Guide
3. Federal Aviation Regulations: Parts 61, 91, 93, 133, 135, and 137
4. Aeronautical Information Manual
5. Aviation Transport of Hazardous Materials Guide
6. Interagency Incident Business Management Handbook
7. NWCG Fireline Handbook
8. Health and Safety Handbook
9. NFPA Handbook 407: Standard for Aircraft Fuel Servicing (2007 Edition)

3.2 STANDARD PROCEDURES

Several procedures have been established for operations at Pittman Valley Helibase and for the helitack crew and helicopter. Normal procedures may vary somewhat due to the demands of a particular project or incident. All operations shall comply with the Interagency Helicopter Operations Guide. The Helitack Crew Supervisor or designated Helicopter Manager will manage all helicopter operations. During the contract period a qualified exclusive-use helicopter manager will be assigned to the helicopter. A helicopter manager's kit is maintained for the helicopter and shall travel with the helicopter, chase vehicle, or designated manager at all times.

Physical Training: The helitack crew will participate in physical training for at least one hour each day not withstanding the needs of any incident or project. Physical training will normally be scheduled between 0830 and 0930. During this time the

crew shall be available by cell phone or radio. Individuals assigned to the helicopter for the day who leave the helibase for physical training (which may include but is not limited to running, bicycling, or hiking), will be within 15 minutes of the helibase at all times. All crewmembers will be in appropriate PPE and prepared for assignments by 0930.

Daily Briefing: Each day at 0930 a briefing will be conducted at the helibase for pilots and the helitack crew. The briefing will include forest preparedness level according to the Forest Fire Management Plan, current fire weather forecasts, a daily safety meeting, and work assignments around the helibase.

Load Calculations: The pilot will complete and post a load calculation with the helicopter manager's signature for the most restrictive conditions anticipated for the day. Load calculations are posted on the helibase flight crew and manifest board. When actual conditions vary more than 1,000 feet or 5 degrees Celsius, a new load calculation will be completed for actual conditions. For incidents or projects, the calculations will be kept in the helicopter manager's kit for the helicopter or posted in a designated place that is available to all personnel.

Power Assurance Check: Every 10 hours of flight time a power assurance check will be completed for each helicopter. It is standard procedure that this check is a topping check completed at a torque or temperature limit. The results will be recorded and plotted on a trend analysis graph in the manager's kit for the helicopter.

Crew Compliment: Standard crew compliment will be a helicopter manager and at least two helitack crewmembers onboard the helicopter and one or more crewmembers in the support truck(s). Variations to the standard compliment are at the sole discretion of the helicopter manager and shall be based on the operational requirements of the incident or project. Standard procedure will be that a manager and at least two crewmembers will always be with the helicopter. The standard compliment will be 6 to 10 persons for out of area assignments. This compliment will normally include a compliment of two managers, crewmembers, and 1-2 trainees (optional).

Helicopter Configuration: Configuration of the helicopter and tools and equipment can vary considerably to meet the needs of the incident or project. Helicopter performance limits the types and amount of equipment that can be carried onboard the aircraft. Normally, performance limits will not permit all the equipment to meet every situation. Several standard configurations have been identified:

1. Initial Attack (IA) Configuration – IA packs, fire tools, chain saw/fuel, water bucket (Bambi Bucket). If performance limits allow, pack-out packs, long-line remote hook.
2. Fire Support Configuration - Bambi bucket, long-line remote hook, IA packs, fire tools, and if fuel loads permit, chain saw/fuel. The helicopter may initially carry extra fuel and may be short one crewmember.

Support Vehicles: Helicopter support bus, chase truck and fuel truck will normally follow the helicopter(s) to each incident or project. Ordering and use of support vehicles will be at the discretion of the crew supervisor or helicopter manager. There are guidelines for preplanned dispatch that include prepositioning of chase vehicles. These guidelines may be followed with the helicopter manager's discretion.

Personal Protective Equipment (PPE): A full compliment of PPE shall be worn by all passengers for all helicopter flights. Use of PPE will comply with direction contained within the IHOG, IHRG, or Interagency Aerial Ignition Guide as appropriate. Extra PPE is stored at the Pittman Valley Helibase and on each helicopter support truck. PPE will be made available for anyone that has a need. All leather boots with "Vibram" soles shall be worn by all passengers and will be the responsibility of the passenger to provide.

3.3 RAPPEL OPERATIONS

All heli-rappel operations shall comply with standards and procedures of the Interagency Helicopter Rappel Guide (IHRG). The decision to rappel on an incident will be made by the helicopter manager or a qualified rappel spotter in conjunction with the pilot. Careful consideration of all risks involved will be made prior to any rappel operation.

3.4 AERIAL IGNITION OPERATIONS

Aerial ignition operations shall comply with standards and procedures of the Interagency Aerial Ignition Guide. An aerial ignition plan will be completed when aerial ignition is used on management ignited fires. Personnel directly involved with aerial ignition operations must be qualified and approved by the Regional Helicopter Operations Specialist, or approved P.S.D. certifier annually. Currently the pilot and helicopter are approved for Plastic Sphere Dispenser (PSD) operations. The assistant supervisor and a lead crewmember are approved PSD operators. A PSD Air

Operations/Safety Plan is included in Appendix B of this plan. The base currently has one PREMO Mark III Plastic Sphere Dispenser located at Pittman Valley Helibase.

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4.0 Flight Management

4.1 PILOT STANDBY/AVAILABILITY

Standby for pilots will be from 0830 to 1730 each day of the contract period. During this time they will be available for dispatch within 10 minutes of call up after pre-flight inspections are completed. Pre-flight inspections are expected to be completed by 0900 each morning. At the helicopter manager's discretion, the pilot may be placed on alert status and will be available within 1 hour of call up (this would normally only occur during poor weather conditions).

4.2 FLIGHT REQUEST

Emergency flight requests can be made by any incident commander, dispatcher, or other authorized personnel by contacting the Williams Interagency Dispatch Center (WIDC). The WIDC will establish priorities from the information furnished by the requesting person/agency. The WIDC will schedule all flights based on priorities and can terminate a mission or flight at any time if there is a higher priority request. All flight requests will be approved by the helicopter manager. Priorities for helicopter use are:

1. Fire emergency with threatened loss of life or property
2. Fire emergency
3. Administrative and project missions

Procedures for dispatching the Forest helicopter on local and off-Forest wildland fire assignments are clearly outlined in the WDC. For non-fire dispatches, the Helicopter Program Manager will discuss the proposed mission with the South Zone Fire Management Officer (FMO). In the absence of the South Zone FMO, the Helicopter Program Manager will consult with the South Zone Duty Officer. Those individuals will then coordinate with Supervisor's Office staff (e.g., Fire Staff Officer, Deputy Fire Staff Officer and/or Forest Aviation Officer) until a decision is reached and implemented.

4.3 FLIGHT PLANNING/FLIGHT-FOLLOWING

Flight planning and flight-following procedures differ on whether the flight is mission or tactical in nature or point-to-point. Flight planning is needed for resource tracking purposes and only required for point-to-point flights. Some type of flight-following is always required.

MISSION/TACTICAL: All flight-following will be accomplished by dispatch via computer. Standard Automated Flight-following (AFF) procedures will be a radio check-in with dispatch on every take-off or landing provided we are not flight-following locally. Initial call to dispatch will include take-off time, number of people on board, and hours of fuel, destination, and ETA. Dispatch will confirm that they have our aircraft on AFF. On landing a call will be made to the dispatch to advise them that we have landed safely on the ground.

If the AFF system is not functioning or we are operating a CWN or ARA aircraft not equipped with AFF, the flight-following standard will be radio check-ins with dispatch every 15 minutes. Initial call to dispatch on departure will be the same as listed above. Enroute check-ins will include current location by lat/long or geographic location, and direction of flight. Final check-ins are required on approach or final approach to landing and also when safely on the ground. For rappel operations, dispatch will be notified when rappel operations are about to begin and when rappel operations are concluded. Normally radio volume will be turned down during rappel operations to maintain a sterile cockpit environment.

POINT-TO-POINT: A flight plan will be submitted to dispatch for all point-to-point flights originating on the Forest. The flight plan shall include route of flight, ETA's, and passenger manifest. Flight-following can be accomplished using any accepted procedure as appropriate and outlined in IHOG. AFF will be the preferred method for long flights. If AFF is unavailable, a FAA flight plan will be used for long flights. AFF will be conducted with dispatch until we arrive at the destination.

LOCAL FLIGHT-FOLLOWING: When the helicopter is on scene at an incident or project, the helicopter manager may request local flight-following. Local flight-following will be advisable when it facilitates frequency management by the pilot and reduces frequency congestion for dispatch. The person(s) performing local flight-following functions shall remain in radio or visual contact with the helicopter(s), be a qualified helicopter crewmember, and have positive contact with dispatch or local District Office.

4.4 AIRSPACE COORDINATION

Several Military Training Routes (MTR's) overlie the Forest. Minimum altitudes for some of these routes are as low as 250 feet Above Ground Level (AGL). Locations of MTR's can be found in DOD Flight Information Publication AP/1B, the Forest Hazard Map, and on Aeronautical Sectional Charts. The most current MTR information is found in the AP/1B, which is updated every 56 days. Dispatch will make efforts as soon as possible to de-conflict airspace when aviation activities are near TFR's. Any pilots that fly for the Forest will be required to take and pass the on-line training for the Grand Canyon N.P. Special Flight Rules Area (SFRA). This training can be found at: <http://www.iat.gov>.

There are multiple agencies using the Grand Canyon Zone airspace. These agencies include:

- State of Arizona: Arizona Air National Guard, Department of Public Safety, State Lands Department, and Game and Fish Department.
- Department of the Interior: Bureau of Land Management, National Park Service, Fish and Wildlife Service, and the Bureau of Indian Affairs.

Each of these agencies has a need to use the airspace and each of these agencies will be contacted by the WIDC to de-conflict the airspace for wildland fire suppression aircraft use.

4.5 PROJECT PLANNING

Project Leaders are encouraged to coordinate with the Forest Aviation Officer (FAO) and Helitack Crew Supervisor when planning projects that will require helicopter resources. All major or recurring special use projects require Project Aviation Plans. Agency specific direction requires that these plans be reviewed at the Regional Office. Requirements for Project Aviation Plans are outlined in IHOG chapter 3 and in the Southwest Regional Aviation Safety Plan and the Regional Air Operations Plan.

4.6 MAPS

A flight hazard map and Forest map may be found at the Pittman Valley Helibase.

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5.0 Aircraft Accidents/Incidents

5.1 PRE-ACCIDENT PLANNING

Annually an Aviation Incident/Accident Response Guide is updated for the Forest. The guide is maintained by dispatch and copies are distributed to the helibase and aviation managers. The plan covers four major areas: Overdue Agency Aircraft, Missing Agency Aircraft, Downed Agency Aircraft, and procedures for Non-Agency Aircraft. An Aviation Incident/Accident Response Guide is maintained at each Helibase and is also included as an appendix to this plan. The first procedure in the event of an accident, overdue, or missing aircraft is to:

NOTIFY DISPATCH

Dispatch will be responsible for activating the Forest Aviation Incident/Accident Response Guide.

5.2 ACCIDENT PROCEDURE

In the event of an accident, personnel on scene have the following responsibilities:

1. Notify Dispatch
2. Assist with evacuation of the aircraft
3. Assist injured personnel
4. Secure the accident scene

5.3 INCIDENT PROCEDURE

Should an incident occur during any aviation operation the standard procedure will be to immediately stop the operation. Operations may continue only after careful consideration of the situation and any corrective measures have been taken. The intent is to call a "Time Out" before any further operations continue. No employee should feel pressured to complete an operation due to a sense of urgency if the operation seems unsafe.

5.4 INCIDENT REPORTING

Any aircraft incident, aviation hazard, or maintenance deficiency must be documented on a “SAFECOM” form. “SAFECOM” forms must be submitted within 24 hours. The form may be submitted electronically via the Internet, or directly to the Forest Aviation Officer. If the SAFECOM is submitted electronically, a copy needs to be given to the Forest Aviation Officer as soon as possible.

6.0 Records and Reports

6.1 FORMS AND REPORTS

Standard IHOG helicopter management forms are used on the Forest and helibase as appropriate. Documentation and records are kept by the Helitack Crew Supervisor. For large incidents, documents are submitted to the Documentation Unit or Incident Commander and become part of the final incident package. Contract related documents are stored at each helibase.

6.2 TIMEKEEPING

Personnel timekeeping is the responsibility of the employee and supervisor. Fire time is recorded on an Emergency Fire Time report and must be signed by a supervisor or Incident Commander. Times are submitted each Monday following a pay period.

6.3 FLIGHT PAY DOCUMENTS

Revenue for the local exclusive use helicopter contract is recorded electronically on FS-122 forms through the Automated Business System (ABS). Helicopter managers must complete pay documents each day whenever possible. Payment packages are also done electronically on the first and 15th of every month and submitted directly to the vendor by the COR. Visiting helicopters are required to submit Cost Summaries daily to the Helibase Manager. A copy of Cost Summaries is forwarded to dispatch. Hard copies of daily diaries are still done and are submitted to the CO on the first and 15th of each month.

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7.0 Helibase Operations

7.1 HELIBASE LOCATION

The Pittman Valley Helibase is located approximately eight miles east of Williams, Arizona, in an unincorporated portion of Coconino County. The lat/long coordinates of the base are: N 35°16'30" W 112°03'30". The legal description of the base is Township 22 North, Range 3 East, Section 22, Gila & Salt River Base Meridian. The base is approximately one road mile north of the Pitman Valley Exit on Interstate 40. The main access road to the base (County/Forest Service Road 74) is paved. Standard operating procedure is to contact WIDC for departure and upon arrival.

7.2 HELIBASE MANAGEMENT

The Helitack Crew Supervisor is responsible for management of the helibase. During the absence of the Supervisor, helibase management is delegated to an Assistant or Lead Crewmember. During incidents, the Helibase Manager position can be filled with another qualified individual and other helibase organization positions will be filled as needed.

7.3 LOCAL CONDITIONS/HAZARDS

The Pittman Valley Helibase is located in an open flat meadow with no obstructions other than a 4' fence around the thirteen acres for the Pittman Valley Base Helibase. There is a power line to the south approximately 1/4 mile away, which runs east to west. The normal flight pattern when leaving the helibase is to the southwest. Departure or approach will not be over the power line directly to the south or southeast of the helibase. The normal and best approach and departure route is southwest on departure and from the north, northeast on approach. Prevailing wind is from the southwest. This landing area provides for safe helicopter operations, regardless of wind direction, because of the location and limited number of obstructions.

7.4 HELICOPTER PARKING

Currently there are two permanent designated helicopter-landing pads at Pittman Valley Helibase. Additional helicopter parking consists of three gravel pads just to the west of the concrete pads on the property.

7.5 VEHICLE PARKING

The helibase has designated parking areas for employee, visitor, helibase, and government vehicle parking. Only helitack support trucks and vendor vehicles will normally be allowed past the “helicopter operations area/authorized personnel only” signs along the access road.

7.6 HELICOPTER FUELING AND SPILL PROCEDURES

No designated fueling pads exist on the helibase. Helicopters will be fueled on their designated pad. Fuel trucks will not approach the helicopter until rotors have stopped. Fueling procedures will comply with guidelines listed in NFPA 407 and the IHOG. If available, a parking tender will standby near a fire extinguisher until fueling is completed. Closed circuit hot refueling is allowed if the helicopter, fuel truck, and vendors are approved for such operations. Hot refueling on the helibase will be the exception rather than the rule and will only be allowed when circumstances dictate a quick turn around time and are requested by the agency. Pittman Valley Helibase also has a government provided fuel trailer available for occasions when the contractor fuel truck is in transit or is not on site. Fuel for the trailer is provided by the contractor and the trailer is inspected annually by the regional maintenance inspector. Fuel dispensing from this trailer is performed by contract personnel only. A spill kit is located on each fuel truck. Small spills will be handled by the helicopter vendor. In the event of a larger spill, the procedure will be to evacuate the area and call dispatch. Dispatch will notify the appropriate authorities and the Forest Haz-Mat Coordinator.

7.7 BASE FACILITIES AND EQUIPMENT

HELICOPTER: The exclusive-use helicopter will be on contract 90 days, from May 1st until July 28th. During this time the Helicopter Manager will ensure that the helicopters and pilots are available for dispatch as outlined in the contract.

HELICOPTER FUEL: A fuel truck is provided for the helicopter by the contractor. Standard fueling procedures will be followed as outlined in NFPA 407. Jet fuel is available locally at the Valle or Flagstaff Municipal airports.

HELITACK SUPPORT TRUCK: Two vehicles are assigned for support of the helitack program. Normally a chase truck will follow a helicopter on all dispatches. At the Crew Supervisors or Helicopter Managers discretion, a chase truck may be left at the helibase or staged at a determined location. Chase trucks contain supplies and equipment for extended attack fire assignments and helibase support.

CRASH/RESCUE EQUIPMENT: During operational periods, crash/extrication kits are located at the Pittman Valley Helibase next to the permanent pads. A 100 lb. fire extinguisher is located on the pad, in addition to a compressed air foam Tri-max extinguisher. Extrication kits and extinguishers are also located on each chase truck.

HELI-RAPPEL EQUIPMENT: Rappel equipment is assigned to each rappeler on the helitack crew. Additional or spare rappel equipment will be stored in the helibase cache. All rappel equipment will meet standards contained within the Interagency Helicopter Rappel Guide (IHRG) and an inventory of all rappel equipment and its use will be documented in the helicopter rappel inventory records book.

PERSONNAL PROTECTIVE EQUIPMENT (PPE): Extra PPE is located in the helibase cache. Extra PPE is also stored on the Helitack Support Bus.

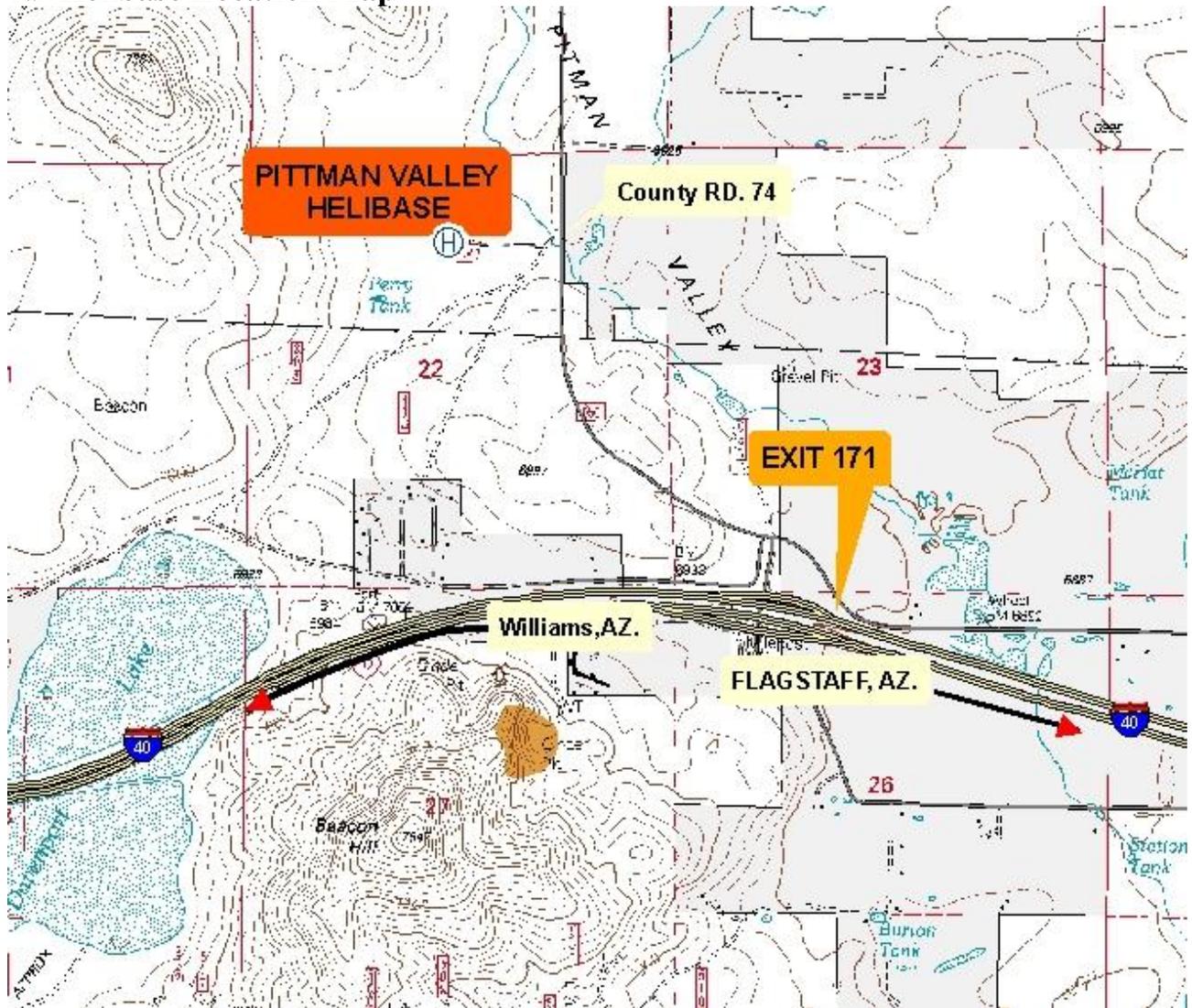
BASE FACILITIES: The facilities at Pittman Vally Helibase consist of one building which houses an equipment storage room, a main office, and a pilot standby room. A common meeting room exists for crew briefings and also has a kitchen for meals. One restroom, with shower, is also part of the building.

PHONE USAGE: Phones are available for use throughout the helibase facility. The helibase consists of two outside phone lines and one line connected to a fax machine. A Forest-wide directory of personnel is available on each phone. Vendors wishing to use helibase phones for long distance calls must use a calling card for charges. The phones are independent of the Forest Service Network and do not require the dialing of the number 9 before making a call.

7.8 HELIBASE POWER AND WATER SYSTEM

The helibase has electricity provided by the local electric company and an onsite well for water. Both helicopter landing pads have water and power available at each pad, allowing for helicopter wash downs and electrical outlets for tools, equipment or lights. If problems arise with these systems, contact the Kaibab National Forest at (928) 635- 5600 and ask for the District Facilities Manager.

7.9 Helibase Location Map



8.0 Attachments

- A. Pittman Valley Helibase Crash/Rescue Plan**
- B. Plastic Sphere Dispenser Air Operations/Safety Plan**
- C. Communications Plan**
- D. Area Lodging**
- E. Hazard Map**

Pittman Valley Helibase Crash/Rescue Plan

First on Scene

1. Call **911** (Address at PVHB is I-40 north to 171 exit, two miles north on County Road 74).
2. Call Dispatch **635-2601** to activate Aviation Incident/Accident Response Plan.

Second on Scene

1. Proceed to accident site and do whatever necessary to extricate passengers/extinguish fires with use of on site fire extinguishers without endangering yourself.

Third on Scene

1. Take crash rescue kit and proceed to crash site. Assist second on scene with extrication/fire.
2. Secure accident scene. Keep bystanders away.

Fourth / Others on Scene

1. Assist where needed with extrication, fire, and security of accident scene.

Responding to a Downed Helicopter

- **Confirm that calls have been made to mobilize the appropriate Emergency Medical Response (EMS) for the incident.**
- **Only consider approaching a downed helicopter if you are assisting with evacuation efforts.**
- **Always station one person away from the accident site who will be able to monitor communications and the response efforts.**
(This person can be used to document facts about the accident like: timeline of events, position and condition of helicopter before rescue efforts, notes about first responders efforts and any radio or phone communications.)
- **Do not approach the helicopter until all moving parts have stopped, and the body of the aircraft is stabilized in one spot.**
(As approaching the helicopter watch for signs of shifting or movement)
- **When responding to a downed helicopter, approach upwind and on the uphill side.**
(Approach upwind, as fumes may not always be visually present, and always stay uphill of the wreckage, as rescue efforts may cause the fuselage to shift downhill and pin responders.)
- **First responders should make an effort to turn off the power and fuel switches on the helicopter if the aircrew is incapacitated.**
 - **Power Off:** Turn all the toggle switches on the top the cockpit towards the back or the tail of the helicopter. *(Generally, batteries are located in the nose or cargo department of the helicopter.)*
 - **Fuel Off:** Turn the red fuel switch off located on the front facing instrument panel.
- **Evacuate personnel if necessary.**
(Helicopter crashes generally cause neck, spine and leg injuries, moving injured personnel CAN compound their injuries. If possible, let professional EMS personnel move the injured victims.)
- **DO NOT return to the helicopter.**
- **Try to secure the area from the public and help preserve the crash site until law enforcement is on scene.**

Note: All aircraft accident investigations are the responsibility of the National Transportation Safety Bureau (NTSB). Supplying these investigation teams with accurate information can help them determine probable cause. It is a good idea to document as many facts about the accident as you personally witnessed as soon as possible. Document the facts only you remember before sharing them with other witnesses. Your facts may include an entire sequence of events or just partial recollections.

Some of the things to document are:

- *Any notable aspects of the aircraft prior to impact (like noise, smoke, how the aircraft turned or rotated on descent etc.)*
- *The angle of the aircraft upon impact.*
- *Position of the aircraft wreckage prior to any first responder efforts.*
- *Any actions taken by personnel around the wreckage other than rescue efforts.*
- *Names of other personnel that may be able to provide information for the investigation.*

B. Plastic Sphere Dispenser Air Operations/Safety Plan

Appendix A – Plastic Sphere Dispenser Operations

- PSD Project Aviation Safety Plan (Example Format)
 - Job Hazard Analysis
 - Job Risk Analysis

- Aerial Ignition Preplanning Checklist
- PSD Organization Chart – PSD Prescribed Fire
- PSD Organization Chart – PSD Wildland Fire
- PSD Prescribed Fire Communications Plan
- PSD Wildland Fire Communications Plan
- Helicopter Crash Rescue/Medivac Plan
- PSD Air Operations/Safety GO/NO GO Checklist (Required Format)
- Interagency PSD Operator Annual Recertification Training Form (Example Format)
- PLDO Task Sheet (Required Format)
- Aerial Ignition Annual Qualifications Update Sheet (Example Format)
- PSD Use Record (Example Format)

Job Hazard Analysis (JHA)

A required document that should outline the primary tasks, identify hazards, and describe methods to mitigate or remove risks associated with Plastic Sphere Dispenser (PSD) operations. Review of the PSD JHA with all Plastic Sphere Operations personnel prior to commencing a project is required.

Plastic Sphere Dispenser Project Aviation Safety Plan

Mission: Aerial Ignition, PSD	Project Name:	Unit:
Anticipated Project Date:	Start Time:	Ending Time:
Project Plan Prepared by:	Title:	Date:
Note: Signature by the preparer verifies that all personnel have the required training for the mission. Attach map, clearly showing areas to be flown; aerial hazards must be indicated.		
Project Plan Reviewed by:	Title:	Date:
Project Plan Reviewed by:	Title:	Date:
Project Plan Reviewed by:	Title:	Date:
This Project is approved by:	Title:	Date:

Project Description:

Attachments: <input type="checkbox"/> Map <input type="checkbox"/> Aerial Ignition Checklist	<input type="checkbox"/> Other:
Project Supervisor:	Phone: Cell:
Helicopter Manager:	Phone: Cell:
PSD Operator:	Phone: Cell:
Participants:	

Type of Flight: Aerial Ignition, Sphere	Desired Make/Model:	Charge Code:
Type Procurement:	Method of Payment:	Projected Cost:
Vendor:	Phone:	Cell:
Aircraft N#:	Make & Model:	Aircraft Color:
Pilot Name:	Pilot Carded: <input type="checkbox"/> Yes <input type="checkbox"/> No	A/C Carded: <input type="checkbox"/> Yes <input type="checkbox"/> No
Flight Follow:	Request or Flight #:	
Method of Resource Tracking: <input type="checkbox"/> Phone <input type="checkbox"/> Radio	<input type="checkbox"/> Prior to Takeoff <input type="checkbox"/> Each Stop En Route <input type="checkbox"/> Arrival at Dest.	
Scheduling Dispatch Phone:	Destination Dispatch Phone:	
FM Receive:	FM Transmit:	Tones:
FM Receive:	FM Transmit:	Tones:
FM Receive:	FM Transmit:	Tones:
AM Air to Air:	AM Unicom:	Other:

This form is continued on the next page.

Plastic Sphere Dispenser Project Aviation Safety Plan (continued)

Passenger Name	Weight	Departure Point	Destination Point
Cargo Weight	Cubic Feet of Cargo	Hazardous Material	Destination
		<input type="checkbox"/> Yes <input type="checkbox"/> No	
		<input type="checkbox"/> Yes <input type="checkbox"/> No	

Crash/Search and Rescue Procedures: Contact Dispatch, follow local/regional crash/search and rescue guide/Aircraft Incident Response Plan.

Start Location	Latitude	Longitude	Elevation	Helibase/Helispot Size
Destination Location	Latitude	Longitude	Elevation	Helibase/Helispot Size

Type of Operation – check applicable boxes	Personal Protective Equipment Requirements
<input type="checkbox"/> Helo Ops – ground personnel	Nomex clothing, hardhat w/chin strap, gloves, leather boots, eye protection, hearing protection, fire extinguisher
<input type="checkbox"/> Rotor Wing flights	Flight helmet, Nomex clothing, gloves, leather boots, eye protection, hearing protection, approved secondary restraint harness for doors off flights
<input type="checkbox"/> Doors off flight	Use approved secondary restraint harness attached to approved aircraft hardpoints

Justification statement for low-level flights:
 Management has deemed aerial ignition as the best method of achieving Agency goals. Aerial ignition is conducted below 500’ above ground level (AGL). Reference IHOG chapter 3, Operational Planning.

Special instructions:
 All PSD operations will be conducted in accordance with Manual and Handbook direction as well as the Interagency Aerial Ignition Guide and Interagency Helicopter Operations Guide. A fire shelter will be available for the Pilot and trained in use. Helicopter Manager, PLDO, and Parking Tender must be carded and current for PSD operations. Helicopter Manager needs to assure that all the PSD equipment meets agency standards.

Aircraft Manager must confirm with Dispatch prior to the flight that affected routes’ Schedulers contacted for Route Activity

Military Training Route (MTR) Information

MTR	Route Legs-Altitude	Activity	Time		Time Zone
		<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start	Stop	<input type="checkbox"/> UTC <input type="checkbox"/> Local
		<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start	Stop	<input type="checkbox"/> UTC <input type="checkbox"/> Local
		<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start	Stop	<input type="checkbox"/> UTC <input type="checkbox"/> Local
		<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start	Stop	<input type="checkbox"/> UTC <input type="checkbox"/> Local
		<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start	Stop	<input type="checkbox"/> UTC <input type="checkbox"/> Local
		<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start	Stop	<input type="checkbox"/> UTC <input type="checkbox"/> Local
		<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start	Stop	<input type="checkbox"/> UTC <input type="checkbox"/> Local
		<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start	Stop	<input type="checkbox"/> UTC <input type="checkbox"/> Local

This form is continued on the next page.

Plastic Sphere Dispenser Project Aviation Safety Plan (continued) PSD Job Hazard Analysis

Aircraft Manager/Pilot review with all participants as part of preflight briefing.

JOB HAZARD ANALYSIS (JHA) <i>(Instructions on next page)</i>	1. WORK PROJECT/ACTIVITY Plastic Sphere Dispenser Operations	2. LOCATION	3. UNIT
	4. PREPARED BY	5. JOB TITLE	6. DATE PREPARED
7. TASKS/HAZARDS		8. ABATEMENT ACTIONS	
Unqualified Personnel Unknown Responsibilities Aircraft Avoidance Weather High/Hot/Heavy Low level obstacles Doors off helicopter operations Pilot not familiar with area Noise, rotor wash Unplanned aircraft events Hazardous materials Communications Rotor hazards Multiple project aircraft PSD Equipment Spheres/Gylcol Ignition Issues Aircraft Fueling Missing Aircraft, Crash/Search & Rescue PSD Malfunctions Cold Weather Operations	-Sphere Dispenser Operator shall be certified annually. Pilot and helicopter will be carded annually for PSD operations. Pilot will be knowledgeable in fire behavior and trained in use of the fire shelter. -Prior to each project, operator will review appropriate portions of IHOG and IAIG. The project briefing will cover responsibilities and emergency procedures -See and avoid. Check MTR routes in advance. Practice risk management; confirm that Dispatch has made contact with schedulers to de-conflict. Fly established airport patterns, initiate and stay in radio contact. -Use weather advisory. Maintain VFR minimums, cancel mission if necessary. -Performance planning complete/insure accurate load calculations. Do not place the aircraft in performance related situations. -Complete a high level recon, no unnecessary low level flight. -Use approved secondary restraint harness in addition to seat belt. Remove/secure loose items from cabin. Know VNE. -Supply hazard maps. Complete high-level recon prior to low-level work, project area identified. -Wear ear and eye protection. -All personnel equipped with required PPE and trained in crash procedures. Review Crash Rescue/Medivac plan. Utilize Personnel Flotation Device when required. -Qualified personnel will handle, review MSDS, inform pilot. -Flight following established, checked and followed, communication plan posted. Maintain communications at all times, establish backup alternate frequencies. Take handheld radio along. Call in prior to landing. If radio contact is lost return to best suitable landing area and check-in. Parking tender outfitted with radio for takeoffs/landings. -Pilot perform aircraft safety brief, approach/depart safely or after shutdown and rotors stop. -Adequate aerial supervision. Carded managers for each aircraft. Maintain aircraft separation and positive communications. -Use only approved equipment with current retrofits as per IAIG. Bench testing will be completed prior to any operational mission and conducted a safe distance away from aircraft. -MSDS sheets on-site and reviewed, personnel briefed on hazards, transportation of hazmat complies with agency direction. -Conduct orientation flight with Ignition Specialist, hang fire mitigation and escaped fire contingency established, must complete all operational checklists prior to starting operations. - Vendor responsibility. No agency personnel on board. Aircraft shutdown unless closed circuit, open port in accordance with NFPA 407 3-21, 4073-21.2(b). Trained personnel staff extinguisher. - Duties assigned for extraction, suppression and flight following. Dispatch/helibase responsible to have current Aviation Incident Response/Crash SAR Plan posted and ready to implement. -Malfunctions will be addressed in project briefing. Operator will immediately notify pilot of problem and take appropriate action to correct. If malfunction cannot be corrected in the air, the helicopter will land. If fire occurs that the operator cannot extinguished, the pilot will be notified and the machine jettisoned. -Utilize approved cold weather garments. This may include nomex hoods and winter weight nomex jackets, pants and flight suits.		
9. LINE OFFICER OR DESIGNEE SIGNATURE	10. TITLE	11. DATE	

Continued on the next page

AVIATION RISK ASSESSMENT WORKSHEET (Example)

Assess the risks involved with the proposed operation. Use additional sheets if necessary. Line Officer/Designee Signature Required. Reference IHOG Chapter 3.II.C.2

Chart 3-2: Risk Assessment Matrix			HAZARD PROBABILITY				
			Frequent A	Likely B	Occasional C	Seldom D	Unlikely E
EFFECT	Catastrophic	I	Extremely High(4)			Medium	
	Critical	II	High	High(3)		Medium	
	Moderate	III	High	Medium(2)			
	Negligible	IV	Medium			Low(1)	
Assignment:			Date:				
Pre-Mitigation hazards rate out as: High – 3.2							
Describe Hazard:			Probability (A-E)	Effect (I-IV)	Risk Level		
1. PSD malfunction-fire in machine attached to aircraft			C	II	HIGH 3		
2. Doors off PSD machine jettison procedures-fall risk to operator.			E	I	MED 2		
3. Aircraft malfunction			D	I	HIGH 3		
4. General Aviation Aircraft in Area. Military Traffic in Area. <i>Must be location specific</i>			C	I	Ex HI 4		
5. Over grossed aircraft/critical wind azimuth			D	I	Ex HI 4		
Mitigation Controls:			Probability (A-E)	Effect (I-IV)	Risk Level		
Post-Mitigation hazards rate out as: Low – 1.8							
1. Emergency procedures covered with Pilot, Operator and Burn Boss/Ignition Specialist in pre-burn briefing. Water reservoir full in machine, pump operational. Spare gallon of water within reach of PSD operator. Machine clean.			D	II	MED 2		
2. Utilize approved restraint harness and tether to approved attach point.			E	IV	LOW 1		
3. Helicopter Manager ensures helicopter is carded and checks log books upon pre-use inspection. Pilot carded and trained in specific helicopter.			E	I	MED 2		
4. Initiate and stay in radio contact with PSD Base. Monitor VHF. Have Dispatch check/clear MTRs in advance. Issue NOTAM if necessary. See and avoid. <i>MUST be completed specific to project area.</i>			E	I	MED 2		
5. Pilot completes load calculation form properly for current and anticipated conditions. New load calculation will be completed for every 5° change (F) and 1,000' elevation change. Manager will ensure load is commensurate with allowable payload as recorded on load calculation.			E	I	MED 2		
Approved By (Line Officer or Designee)			Title:			Date:	

Plastic Sphere Dispenser Project Aviation Safety Plan (continued)

Job Risk Analysis

Helicopter Manager/Pilot review with all participants as part of preflight briefing.

Is everything approved with clear instructions, aviation plan signed and reviewed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Are communications and flight following established, including repeater tones?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Can terrain, altitude, temperature, or weather that could have an adverse effect be mitigated?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Are all aerial hazards identified and known to all participants?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Have mitigating measures been taken to avoid conflicts with military or civilian aircraft.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Have adequate landing areas been identified and or improved to minimum standards.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Are all agency personnel qualified for the mission?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Is the pilot carded and experienced for the mission to be conducted?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Are pilot flight and duty times compromised?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Are there enough agency personnel to accomplish the mission safely?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Will adequate briefings be conducted prior to flight to include Pilot, Passengers, and Dispatch?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Are all involved aware that the Pilot has the final authority, but if any passenger feels uncomfortable, that they can decline the flight?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Is the aircraft capable of performing the mission with a margin of safety?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Have manifests of cargo and passengers, load calculations, and/or weight and balance completed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Is the aircraft properly carded?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Do all personnel have the required PPE?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Fuel planning, adequate fuel on board, fuel truck location, availability of commercial fuel?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Remember maps of areas/sites, handheld radios, cell phones, day/survival packs, and sick sacks.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Is there an alternative method that would accomplish the mission more safely?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Will the mission be conducted at low levels? (Below 500' AGL). Discuss	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Can the same objectives be achieved by flying above 500' AGL?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA

PSD Aerial Ignition Preplanning Checklist

- | | | | |
|--|------------------------------|-----------------------------|-------------------------------|
| Prescribed Burn plan approved | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> N.A. |
| Aviation Safety Plan approved | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> N.A. |
| Burn Blocks prepped for aerial ignition | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> N.A. |
| Is there an aircraft and pilot available/carded | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> N.A. |
| Aircraft and fuel truck reserved/scheduled the week before | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> N.A. |
| PSD Equipment serviced and ready | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> N.A. |
| PPE including fire shelters for all participants | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> N.A. |
| Adapters needed/available | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> N.A. |
| Extra Spheres available/where | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> N.A. |
| Backup/spare PSD | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> N.A. |
| Crash rescue/Evacuation equipment ready | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> N.A. |
| Helispots prepared and approved | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> N.A. |
| Fire Suppression needs available
(Extinguishers, foam, Engine, CAF) | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> N.A. |
| Enough qualified people available | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> N.A. |
| PSD Operator(s) | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> N.A. |
| Helicopter Manager(s) | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> N.A. |
| Helibase Manager | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> N.A. |
| Parking Tender(s) | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> N.A. |
| Fire Protection Group | <input type="checkbox"/> yes | <input type="checkbox"/> no | <input type="checkbox"/> N.A. |

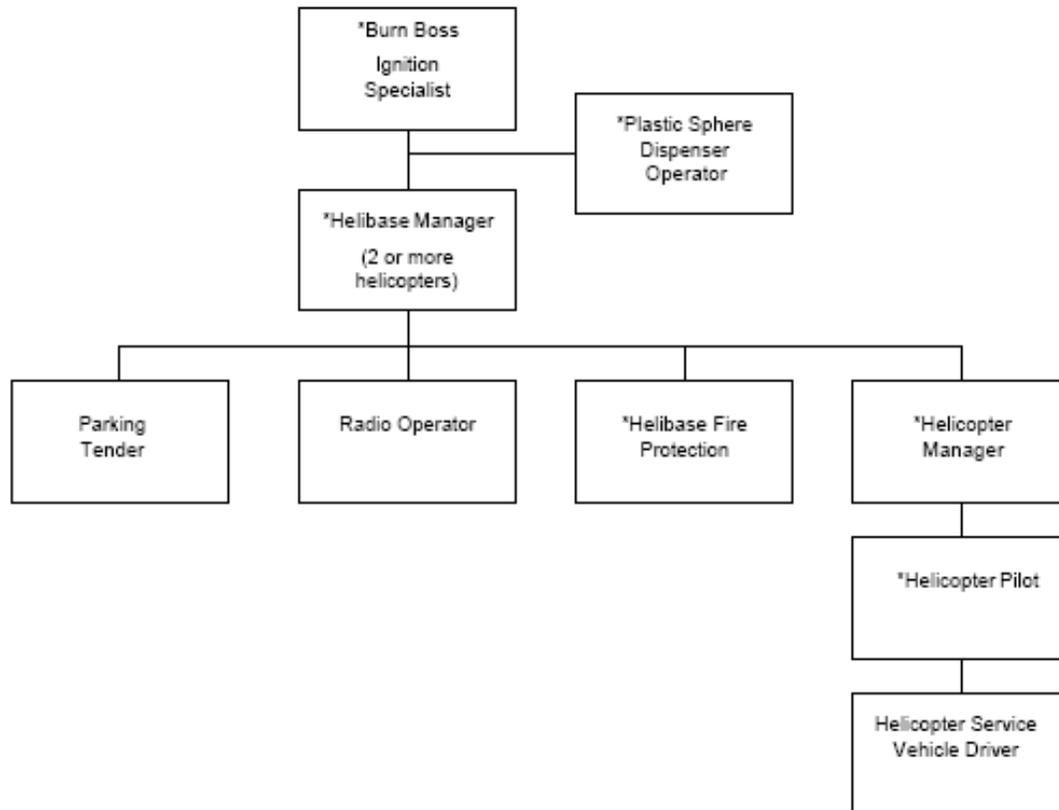
Additional reminders:

- | | | |
|-------|------------------------------|-----------------------------|
| _____ | <input type="checkbox"/> yes | <input type="checkbox"/> no |
| _____ | <input type="checkbox"/> yes | <input type="checkbox"/> no |
| _____ | <input type="checkbox"/> yes | <input type="checkbox"/> no |

Estimated cost: _____

Location of aircraft: _____

Plastic Sphere Dispenser Organization – Prescribed Fire



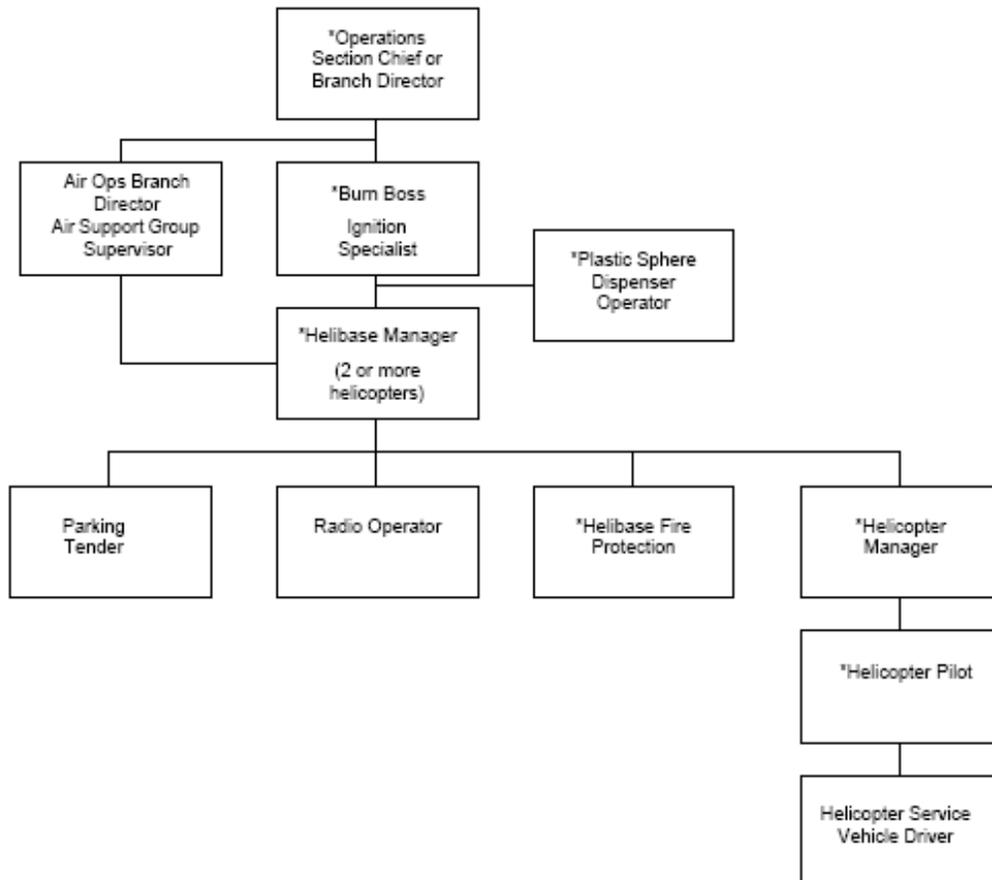
***Minimum required organization. Deviation from staffing required positions requires prior approval from Regional Helicopter Operations Specialist or State/Regional Aviation Manager. Other positions to be filled as needed to provide for a safe and efficient operation.**

Note: Helicopter Manager may serve collateral duty as PLDO.

Note: If Helibase Manager is not required then the Helicopter Manager provides supervision of helibase personnel.

Note: Identify all trainees for given positions on organization chart.

Plastic Sphere Dispenser Organization – Wildland Fire



* Minimum required organization. Deviation from staffing required positions requires prior approval from Regional Helicopter Operations Specialist or State/Regional Aviation Manager. Other positions to be filled as needed to provide for a safe and efficient operation.

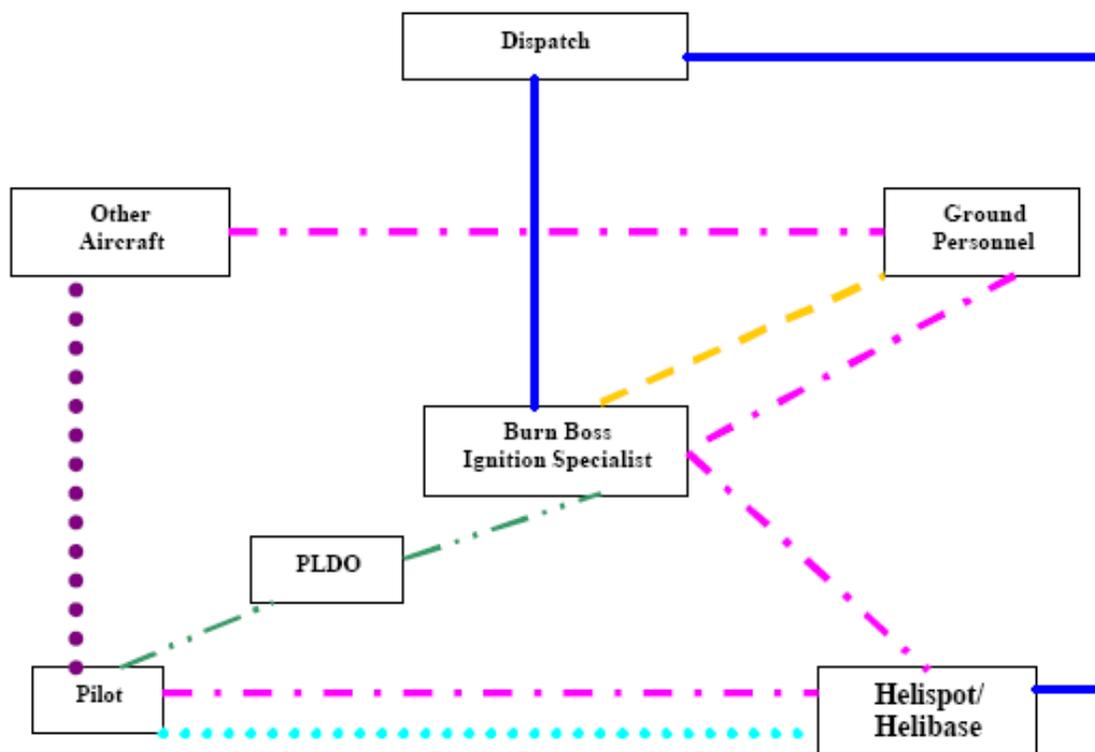
Note: Helicopter Manager may serve collateral duty as PLDO.

Note: If Helibase Manager is not required then the Helicopter Manager provides supervision of helibase personnel.

Note: Identify all trainees for given positions on organization chart.

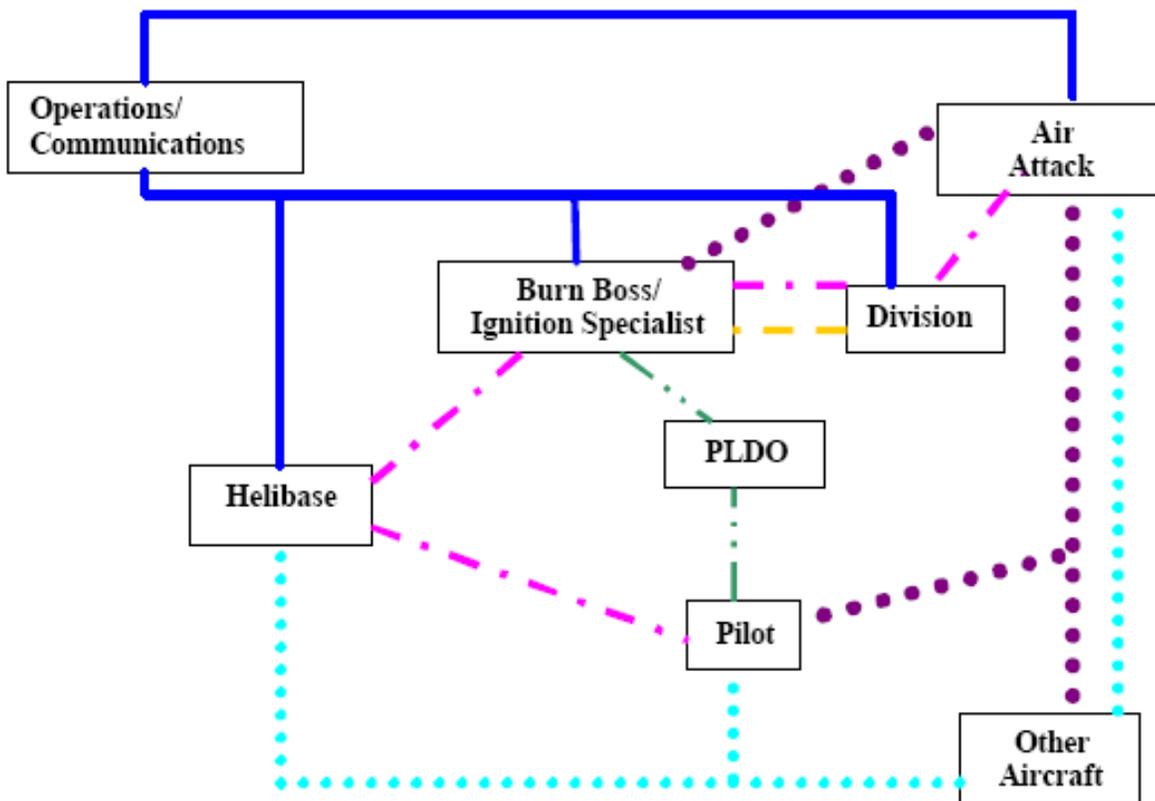
PSD Prescribed Fire Communications Plan

Legend			
	RX	TX	Tone
Command			
Air to Ground			
Tactical			
Flight Following			
Air to Air			
Intercom System			



PSD Wildland Fire Communications Plan

Legend			
	RX	TX	Tone
Command			
Air to Ground			
Tactical			
Flight Following			
Air to Air			
Intercom System			



Helicopter Crash Rescue/Medivac Plan

General Instructions		
In the event of an accident, the Helicopter/Helibase/Helitorch Manager will supervise and coordinate the crash rescue activities. Specific crash rescue duties will be assigned to helibase personnel each morning before flights of any kind. Crash rescue, evacuation and first aid equipment will be located near the helipad and equipment's location made known to all helibase personnel. Information and instructions will be sent/received through the local dispatch office or communications.		
Specific Information and Instructions (Utilize cell phone if possible. Do not use names over the radio.)		
1.	Nature of the injury(s)/illness.	
2.	Is medical help needed? If available supply vital signs!	
3.	What transportation is needed? Is patient(s) ambulatory?	
4.	Location of victim.	
5.	Route to be taken (use land marks as guide).	
6.	Equipment needed.	
7.	Name of contact on site.	
8.	Notify appropriate agency line officer.	
EMT(S) on project		
Available Medivac helicopters		
FAA #	HEMG	
Litter/rappel/extraction capable		
Remarks		
FAA #	HEMG	
Litter/rappel/extraction capable		
Remarks		
Nearest medical facility	Location	
Latitude	Longitude	Contact Freq
VOR	NM	DEG
Nearest burn center	Location	
Latitude	Longitude	Contact Freq
VOR	NM	DEG
LifeFlight	Location	
Type aircraft	Phone Number	Contact Freq
Site conditions		
Latitude	Longitude	Contact Freq
VOR	NM	DEG
Wind speed	Elevation (msl)	Temperature (F, C)
Terrain factors	Helispot size	
Proximity of helispot to injury site	Visibility/sunrise/sunset limitations	
Flight hazards		
Other aircraft in area (call signs and frequencies)		
Ground contact and frequencies		

PSD Air Operations/Safety GO/NO GO Checklist

The helicopter operations on this project require the use of this checklist. If all items are not checked as satisfactory and maintained in that state for the duration of the mission, flying operations will be suspended until the deficiency is mitigated.

Helibase Safety	<input type="checkbox"/> Approved Project Aviation Safety Plan. <input type="checkbox"/> Qualified Helibase/Helispot Manager assigned. <input type="checkbox"/> Helibase/helispot meet established standards. <input type="checkbox"/> Organizational chart posted, assignments known. <input type="checkbox"/> Communications chart posted. Frequency assignments known. <input type="checkbox"/> Helibase/helispot fire protection meets established standards. <input type="checkbox"/> Crash rescue/evacuation kits on the helibase/helispot. <input type="checkbox"/> Current Aviation Incident Response Plan posted at Dispatch/Helibase and ready to implement. <input type="checkbox"/> All personnel briefed. Aerial ignition personnel briefed on in-flight operations. <input type="checkbox"/> Separation of aircraft (if more than one used). <input type="checkbox"/> Personal protective equipment meet established standards. <input type="checkbox"/> Flight hazard map posted/hazards known to pilot.
Aircraft/Pilot(s)	<input type="checkbox"/> Check pilot and aircraft approval cards. <input type="checkbox"/> Check pilot and aircraft limitations. <input type="checkbox"/> Load calculations prepared and posted. <input type="checkbox"/> Check aircraft radios. <input type="checkbox"/> Remove all loose articles from aircraft. <input type="checkbox"/> Fire shelter on board aircraft for each person. <input type="checkbox"/> Water bucket ordered with aircraft (optional). <input type="checkbox"/> Approved Secondary Restraint Harness and approved aircraft hardpoint to attach to.
Plastic Sphere Dispenser	<input type="checkbox"/> Installation correct with restraints in place. <input type="checkbox"/> Mechanical operation satisfactory. <input type="checkbox"/> Extinguisher (water reservoir) system filled and operational. <input type="checkbox"/> Glycol reservoir filled and tightly capped. <input type="checkbox"/> 20-second ignition delay achieved. <input type="checkbox"/> Intercom and aircraft-to-ground communications operable. <input type="checkbox"/> Pilot has been briefed and agrees that all is in order. <input type="checkbox"/> Sphere containers secured. <input type="checkbox"/> Seat belt cutter available for emergency use. <input type="checkbox"/> Additional container of water available. <input type="checkbox"/> Tool kit/Premo Mark III manual on board aircraft (optional).
Burning Operations	<input type="checkbox"/> All persons briefed and assignments known. <input type="checkbox"/> Maps/photos of project area used/posted. <input type="checkbox"/> Special weather considerations known/discussed. <input type="checkbox"/> Communication plan posted and frequency assignments known. <input type="checkbox"/> Emergency operations plan known and discussed. <input type="checkbox"/> Personal protective equipment meets established standards. <input type="checkbox"/> Special safety considerations known and discussed.
Support Equipment/Personnel	<input type="checkbox"/> Adequate support equipment/personnel to complete mission. <input type="checkbox"/> Pump/engine operational checks. <input type="checkbox"/> Radios/communications operationally checked. <input type="checkbox"/> Support equipment/personnel propositioned before actual operations begin. <input type="checkbox"/> Adequate supply of plastic spheres and glycol to complete project. <input type="checkbox"/> PSD checklist complete.

PSD Operator	/	Date	/	Pilot	/	Date
--------------	---	------	---	-------	---	------

Burn Boss/Ignition Specialist	Date
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C. Communications Plan

KAIBAB NATIONAL FOREST COMMUNICATION PROCEDURES

1. The Incident Commander assigned to a developing fire is responsible for frequency management on that incident. The Incident Commander will ensure frequency coordination with the Williams Dispatch Center and will ensure that the procedures outlined below are to be followed to the maximum extent possible.
2. Initial attack fire personnel will utilize one of the Forest's primary frequencies. As the incident grows and communication gets more complex, it is the I.C.'s responsibility to change to a more open frequency. The Incident Commander shall notify the Williams Dispatch Center that the fire is changing to a tactical (TAC) channel. The TAC 1 channel is 168.050, TAC 2 channel is 168.200 and the TAC 3 channel is 168.600 and these will be utilized. The Williams Dispatch Center does not have the capability to monitor these frequencies; therefore, the I.C. must monitor the Forest Frequency as well.
3. The I.C. will coordinate air/ground frequencies with the Air Tactical Group Supervisor, ASM, or Lead Plane over the incident. The Kaibab National Forest uses 171.475 for air/ground and the Regional air/ground frequency 170.000.
4. All air-to-air communications will be on VHF-AM frequency 135.600 (Primary) for Initial Attack (per Southwest Area Mobilization Guide, page 70-2). If this frequency is already in use due to high fire activity, another VHF-AM frequency will be assigned by the Southwest Interagency Coordination Center in Albuquerque. If the operation requires a Temporary Air Space Restriction (TFR - FAR part 91.137), the Williams Dispatch Center will order a discrete VHF-AM frequency for the incident through SWCC (a TFR is not necessarily required when ordering a VHF-AM frequency). When a discrete frequency is assigned, the Air Tactical Group Supervisor will switch all aircraft on the incident to that frequency.

Kaibab National Forest Frequencies
(NARROW BAND)
Group-1

Channel	RX- Freq	TX-Freq	Channel Name
1	170.550	170.550	S. Zone Simplex
2	170.550	170.250	S. Zone Repeater
3	171.550	171.550	Coco. Fire Simplex
4	171.550	173.025	Coco. Fire Repeater
5	172.300	172.300	Coco. Admin. Simplex
6	172.300	171.475	Coco. Admin. Repeater
7	172.575	172.575	GCNP Fire Simplex
8	172.575	169.675	GCNP Fire Repeater
9	171.475	171.475	GCZ Air to Ground
10	171.575	171.575	FLZ Air to Ground
11	154.280	154.280	Arizona NIMS
12	168.050	168.050	Tac-1
13	168.200	168.200	Tac-2
14	168.600	168.600	Tac-3

User Selectable Tone Guards
Kaibab- Coconino- GCNP

User Tone	TX Tone Freq.	Kaibab User Tone Name	Coco. User Tone Name	GCNP User Tone Name
1	103.5	Simplex	Squaw Peak	
2	136.5	South Canyon	Hutch Mountain	
3	146.2	Saddle Mountain	Mount Elden	
4	156.7	Bill Williams	Schnebly Hill	
5	167.9		Moqui	
6	179.9	Tusayan		
7	127.3		Saddle Mountain	Hopi Point

Kaibab National Forest Frequencies
(NARROW BAND)
Group -2

Channel	RX-Freq.	TX-Freq.	Channel Name
1	168.750	168.750	N. Zone Simplex
2	168.750	169.900	N. Zone Repeater
3	171.550	171.550	Dixie Fire Simplex
4	171.550	172.350	Dixie Fire Repeater
5	168.425	168.425	Arizona Strip Simplex
6	168.425	169.325	Arizona Strip Repeater
7	172.575	172.575	GCNP Fire Simplex
8	172.575	169.675	GCNP Fire Repeater
9	171.475	171.475	GCZ Air to Ground
10	168.975	168.975	BLM Cedar City Simplex
11	154.280	154.280	Arizona NIMS
12	168.050	168.050	Tac-1
13	168.200	168.200	Tac-2
14	168.600	168.600	Tac-3
15	163.100	163.100	Bryce Canyon N.P.
16	166.325	166.325	Zion N.P.

User Selectable Tone Guards
Kaibab- Dixie- GCNP- Az. Strip

User Tone	TX Tone Freq.	Kaibab User Tone Name	Dixie User Tone Name	Az. Strip User Tone Name
1	103.5	Simplex / Jacob Lake	Blow Heard	
2	110.9	Dry Park	Big Mountain	
3	123.0	Big Springs / GCNP Kanab		Hudson Point
4	131.8	Big Ridge		
5	136.5	South Canyon		Seemiller
6	167.9	Kanab Hill		Mount. Logan
7	151.4	GCNP- VT Hill		
8	156.7			Moccasin
9	179.9		Utah Hill / Beaver Dam	

Location	Type	RX Freq.	TX Freq.	CTSS Tone	Latitude	Longitude	Township	Range	1/4 Section
Jacob Lake					36 42.13	112 11.99	38 N	2 E	SE of SE
	Simplex	170.55	170.55	103.5					
	Repeater	170.55	170.25	103.5					
Dry Park					36 27.33	112 13.92	35 N	2 E	SW of SW
	Simplex	170.55	170.55	103.5					
	Repeater	170.55	170.25	110.9					
Big Springs					36 35.83	112 19.53	37 N	1 E	NE of NE
	Simplex	170.55	170.55	103.5					
	Repeater	170.55	170.25	123					
Big Ridge					36 43.22	112 11.18	38 N	2 E	NW of SE
	Simplex	170.55	170.55	103.5					
	Repeater	170.55	170.25	131.8					
South Canyon					36 20.59	112 2.92	34 N	3 E	NE of SW
	Simplex	170.55	170.55	103.5					
	Repeater	170.55	170.25	136.5					
Saddle Mt.					35 26.0	111 43.7	24 N	6 E	SE of NW
	Simplex	168.75	168.75	103.5					
	Repeater	168.75	169.9	146.2					
Bill Williams					35 12.08	112 12.3	21 N	2 E	SE of NW
	Simplex	168.75	168.75	103.5					
	Repeater	168.75	169.9	156.7					
	Air Net	168.65	168.65						
	Air Guard	168.625	168.625						
Tusayan					35 59.19	112 7.23	30 N	2 E	SE of NE
	Simplex	168.75	168.75	103.5					
	Repeater	168.75	169.9	179.9					
Kanab Hill									
	Simplex	170.55	170.55	103.5					
	Repeater	170.55	170.25	167.9					

RADIO FREQUENCIES

Coconino Frequencies

Coconino Forest	TX Frequency	RX Frequency	Tone
COCONINO CHANNEL 1	171.550	171.550	103.5
COCONINO CHANNEL 2	172.300	172.300	110.9
CHANNEL 1 REPEATER	173.025	171.550	127.3
CHANNEL 2 REPEATER	171.425	172.300	136.5
FLAGSTAFF F.D.		155.475	
TACTICAL CHAN. 1	168.050	168.050	91.5
TACTICAL CHAN. 2	168.200	168.200	00
TACTICAL CHAN. 3	168.600	168.600	00
COCONINO CREW	168.350	168.350	00
AIR/GROUND	171.575	171.575	00
MUTUAL AIDE	154.280	154.280	00

Coconino Repeaters

Mountain	Tone #	Tone	Repeater
SQUAW PEAK	1	103.5	CHANNEL 1 &2
SADDLE MOUNTAIN	3	127.3	CHANNEL 1 &2
HUTCH MOUNTAIN	4	136.5	CHANNEL 1 ONLY
MT ELDEN	5	146.2	CHANNEL 2 ONLY
SCHNEBLY	6	156.7	CHANNEL 2 ONLY
MOQUI	7	167.9	CHANNEL 2 ONLY

D. Local Area Lodging

Arizona Suites	750 N. Grand Cyn. Blvd.	635-9127
Best Western	2600 W. Rt. 66	635-4400
Budget Host Inn	620 W. Rt. 66	635-4415
Canyon Motel	1900 E. Rodeo Rd.	635-9371
Courtesy Inn	334 E Rt. 66	635-2619
Days Inn	2488 W. Rt. 66	635-4051
Holiday Inn	950 N. Grand Cyn. Blvd.	635-4114
Motel 6	720 W. Rt. 66	635-4464
Mountain Rch. Resort	6701 Mtn. Rch. Rd.	635-2693

All of these Motels/Hotels are located in or near Williams. There is a phone book near the phone at the base that will provide more Williams options as well as lodging in Flagstaff.

E. Hazard Map