

COLORADO DIVISION OF FIRE PROTECTION & CONTROL



MULTI MISSION FIXED WING AIRCRAFT OPERATING PLAN

Ver: April 13, 2016 Final

INTRODUCTION

The Colorado Division of Fire Prevention and Control (DFPC) is tasked with assisting Colorado fire departments and County Sheriffs with wildfire suppression when requested. To meet its goal of assessing wildfires within 60 minutes of detection, DFPC has purchased two Pilatus PC-12 aircraft, each equipped with a thermal imaging camera, mapping equipment, and data transfer equipment. These aircraft will be staffed and available for year-round service. Faster response times are expected during the peak fire season 1 April through 31 October, annually.

AUTHORITIES

The Colorado General Assembly granted DFPC permission and funding to establish an aerial firefighting program as a direct result of the report required by Colorado Senate Bill 13-245. Aircraft and services procured under this direction are intended to help achieve DFPC's goals to:

"Keep all wildfires with values at risk smaller than 100 acres and to suppress all fires in Wildland Urban Interface (WUI) areas at less than ten acres, 98% of the time."

"Generate an incident assessment for, and delivering the appropriate aviation suppression resources to, every fire within 60 minutes of report or detection."

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Multi Mission Aircraft Operating Plan Review and Approval

2016

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ATTACHMENTS

- A. DFPC DUTY OFFICER MMA TRACKING FORM**
- B. FLIGHT REQUEST/FLIGHT SCHEDULE**
- C. FIRE TRAFFIC AREA DIAGRAM**
- D. SAFECOM FORM**

Background

Due to historical fire seasons that have impacted communities in Colorado with devastating wildfires and have cost Colorado taxpayers hundreds of millions of dollars, Senate Bill 13-245 was introduced into the Colorado Legislature. This bill required the Director of the newly created DFPC to evaluate the efficacy of the Colorado Firefighting Air Corps (CFAC) and strategies to enhance Colorado's aerial firefighting capabilities, and submit a report to the Governor and General Assembly prior to April 1, 2014.

The Director's final report recommended that the DFPC improve early detection and Initial Attack Capabilities and the procurement of two, Multi Mission Aircraft (MMA) with the ability and technology to complete assessments of emerging and ongoing wildland fires was recommended.

Purpose of this Plan

This operating plan documents the safety and planning of efficient, effective, and timely use of the MMA without mishaps. It enumerates the policies and operating procedures for use of the MMA as well as the equipment and training requirements. This operating plan is intended to guide program personnel through the daily scheduling, dispatching, operation, maintenance, fueling, and basing of the MMA aircraft. However, this plan cannot cover every situation so managers and operators must use sound judgment while conducting missions with the MMA.

This aircraft operating plan includes:

- **Pilots and Personnel Duties and Responsibilities**
- **Aircraft**
- **Intended Use**
- **Airports**
- **Records**
- **Security**
- **Other**

Operational Concept

To speed detection of and response time to fires, the MMA's on-board systems support immediate visual and infra-red viewing of the area, review and processing of data, and transfer of processed data to the Colorado Wildfire Information Management System (CO-WIMS). Pilots and the MMA are immediately available during fire season with a rapid dash capability geared towards early detection and intelligence gathering.



Figure 1 Concept View - Delivering the Detailed Common Operating Picture to DFPC, IC, and Firefighters

Wildfire identification is another key capability of the MMA system that enables the generation of accurate and detailed fire information for the DFPC and Incident Commanders (IC). Rapid delivery of this level of wildfire incident information facilitates a better evaluation of risks and resources to safely maximize and prioritize wildland fire management efforts. The MMA system processes this data and interfaces seamlessly with CO-WIMS to provide a complete operating picture of traditionally disparate sources. One key feature of the MMA system is the additional ability to record, measure, and evaluate the effectiveness and accuracy of the air tankers' retardant delivery. The graphics in Figures 1 and 2 depict the key components that come together to provide a detailed, actionable Common Operating Picture.

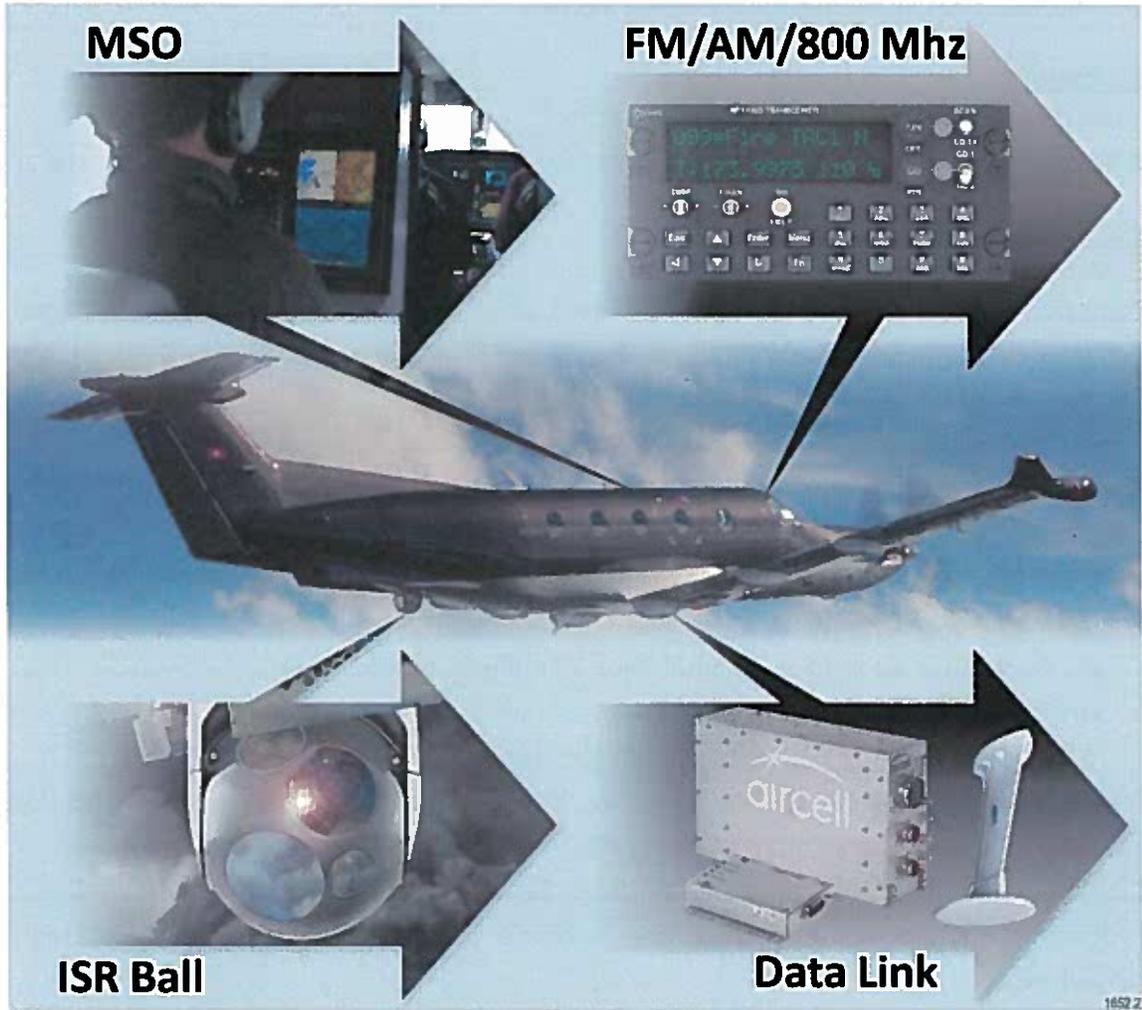


Figure 2 Multi-Mission Aircraft: Heart of the Common Operating Picture

1.0 AIRCRAFT

This section defines the capabilities of the MMA aircraft.

1.1 Certifications

Each Aircraft has a Standard Airworthiness Certificate.

MMA Contractor or Subcontractor holds a current FAA 14 CFR Part 135 Operating Certificate.

1.2 Aircraft Capabilities / Limitations

Each MMA has the following capabilities:

- Equipped as required pursuant to 14 CFR Part 135 for VFR, IFR operations, night flights, flights above 10,000 feet, and flights in Class A and B Airspace.
- Capable of operations at altitudes up to 30,000 feet MSL.
- Pressurized and air conditioned cabin.
- Capable of carrying, at least, one (1) pilot and up to four (4) passengers.
- Performance:
 - Cruise speed up to than 250 KTAS.
 - Payload up to than 2,000 pounds.
 - Endurance up to four (4) hours plus 30 minutes reserve fuel.
 - Range up to 1,500 NM range.
 - Takeoff from, and land to, a 2,500-foot runway.
- Provides data connectivity between the aircrew and CO-WIMS anywhere in the continental United States at 10,000 feet AGL.
- Equipped with an Electro-Optical/ Infrared Sensor and mission software capable of producing real-time or near real-time airborne fire intelligence for day and night surveillance.
- Capable of recording and mapping the location of aerially applied water or fire retardant, mapping a fire's progression over time, and providing incident reports directly to CO-WIMS to include:
 - Fire location perimeter
 - Fire intensity map
 - Fire behavior description
- Type I Air Attack Avionics
 - Two VHF-AM Radios (COM 1 and COM 2)
 - Three VHF-FM Radios (FM 1, FM 2, and FM 3)
 - One 800 MHz band radio configured to communicate with Colorado emergency response personnel
 - Separate audio control systems for pilot, co-pilot, and passenger locations, all that allow individual volume controls to adjust receiver audio levels, with Intercom system and microphone and headphone jacks for each position
 - One IFR certified Global Positioning System ("GPS") WAAS certified with moving map

Traffic Avoidance System ("TAS") or Traffic Collision Advisory System ("TCAS")

1.3 Maintenance

Each MMA shall be maintained in a mission ready state. The Operations and Maintenance Contractor shall:

- Maintain the MMA to and in accordance with the operator's 14 CFR Part 135 certificate.
- Perform unscheduled periodic maintenance audits on the MMA.
- Provide or arrange for a comprehensive preventive maintenance program to keep the MMA in airworthy condition.
- Provide maintenance on MMA to expediently respond to, repair, and return to service such Aircraft when needed, either by an A&P mechanic currently in the employ of the contractor or operating subcontractor or at an FAA approved maintenance facility.
- Whenever an MMA is grounded due to mechanical or equipment deficiencies, the DFPC Aviation Unit Chief and Planning Branch Chief shall be notified when the Aircraft has reached "return to available" status.
- During periods of minimal flight activity, the Contractor shall perform a start and ground run on each MMA a minimum of every 14 days.

1.4 Weight & Balance

The Pilot in Command (PIC) is responsible for computing the weight and balance for all flights and for assuring that the gross weight and center of gravity do not exceed limitations.

1.5 Fueling

Coordination of MMA fueling is the responsibility of the PIC. Fuel is purchased by the subcontractor with a credit card invoiced directly to the DFPC.

2.0 OPERATIONS

The MMA shall be operated in accordance with 14 CFR 135 Operations Specifications, all FAA approved and accepted manuals, all portions of 14 CFR 91 and each certification required under the MMA Contract, unless otherwise requested by the DFPC Aviation Unit Chief and authorized by the Contractor's Program Manager.

FLIGHT MISSION CATEGORIES

All flights will be managed according to the following mission categories. Standards for flight profiles, flight plans, flight following and resource tracking may be different for each category.

2.1 ISR- Fire Intelligence, Active Fire, and Reconnaissance Missions

- Generally, the purpose of this type of mission is the detection and initial fire size up and assessment in areas where fire is suspected, yet not confirmed.
- These missions will normally be flown by the MMA independent of any other fire aircraft. The MMA will normally be patrolling at high altitude surveillance areas of lightning strikes, smoke reports or other designated high fire risk areas.

- The MMA will request flight following from the appropriate ATC Facility when in IFR flight conditions or will coordinate the mission with the controlling ATC facility when operating on a VFR flight plan in controlled air space.
- When operating in this mission category, the MMA will use the call sign “N327SF” or “N328SF”.

The MMA will normally be operating at an altitude well above both the Fire Traffic Area (FTA) and normally above the ceiling of the Temporary Flight Restriction (TFR). These higher altitudes allow the MMA to make maximum use of its sensor and communication capabilities while maintaining a safe altitude above the FTA/TFR. Standard operating procedures for the MMA will be to notify the Aerial Supervision Platform or “call in the blind” at the standard 12 mile out notifying other air resources of its presence regardless of its plan to enter to FTA/TFR. If the MMA is planning on entering the FTA/TFR the Aerial Supervision Platform will be contacted and procedures as outlined in the Interagency Aerial Supervision Guide and shown in Section 11 of this document, will be followed.

2.2 Air Tactical Missions

The MMA aircraft were funded for detection and aerial intelligence purposes, to assist local jurisdictions with initial attack wildland fire response on state and private lands within the State of Colorado. Air Tactical Missions (Air Attack) are not currently utilized for the MMA aircraft. However, per MMA contract, pilot and aircraft are required by the contract to be air attack qualified and hold interagency cards, which facilitates interagency acceptance and use if state and local missions are not pending. For the interim there may not be a qualified Air Tactical Group Supervisor (ATGS) on board the aircraft. Future plans for the MMA may involve use as an air attack platform, and plans and policy will be revised and distributed prior. When flying in this profile the aircraft, pilot will need to be Interagency carded, and a qualified Air Tactical Group Supervisor will be on board.

2.3 All Risk Missions & SAR Support

For intelligence gathering or mapping in support of All-Risk incidents, and support of Search and Rescue missions, the MMA will use the call sign N327SF or N328SF.

The MMA will follow standard interagency incident airspace procedures, where applicable, when supporting All-Risk Incidents.

2.4 Point-To-Point Transportation Flights

For non-incident point-to-point flights the MMA will use the call sign “N327SF” or “N328SF”.

All passenger-carrying flights shall be conducted in accordance with the contractor’s 14 CFR Part 135 operation specifications.

Aircraft may be used to transport personnel to meetings, administrative activities, or training sessions. These flights are requested through the **Duty Officer and forwarded to the MMA Unit Chief**. All passengers must be authorized by the Planning Branch Chief or their designee (and must be approved by the Director or the Director's designee).

3.0 TRANSPORTATION OF HAZARDOUS MATERIALS

DFPC is a party to the DOT-SP-9198 special permit and each MMA is approved to carry hazardous materials (HAZ MAT) internally under the conditions of this special permit and the accompanying Interagency Aviation Transport of Hazardous Materials Guide.

- A copy of the DOT-SP-9198 special permit and the Interagency Aviation Transport of Hazardous Materials Guide, the Hazardous Materials Manifest Form, as well as a current Hazardous Materials Response Guide is onboard the MMA at all times.
- Pilot shall assure that all Hazardous Materials are transported in compliance with the Interagency Hazardous Materials Handbook and its exemption.
- Pilots and DFPC personnel involved in the transport of HAZ MAT must be trained and current in Aviation Transport of Hazardous Materials (A-110), which is available at the Interagency Aviation Training website (<https://www.iat.gov/>).

4.0 AVAILABILITY

During each day this Contract is in effect, each Aircraft, Flight Crew, Contractor Personnel and related equipment shall be available for twelve (12) consecutive hours as requested by the MMA Unit Chief (the "Daily Availability"). During each Aircraft's Daily Availability, the Aircraft, Flight Crew, Contractor Personnel and related equipment shall be maintained in order to meet the following response time requirements and Alert status:

"High Alert" means from April 1 through and including October 31 of each year, both Aircraft shall respond to dispatch within twenty (20) minutes of Mission confirmation by the DFPC Duty Officer, unless an alternate response time is established by the MMA Unit Chief. Delays to the 20-minute response time due to risk management, safety of flight or safety of Flight Crew, local air traffic, and other causes beyond the PIC'(s) control will be considered in evaluating Contractor Personnel/Mission Aircraft response time. This response time requirement does not apply when the Aircraft is being relocated to a different airbase. If the Aircraft is being relocated to a different airbase, the MMA Unit Chief will confer with the Pilot-in-Command regarding an agreed upon and reasonable time frame for such relocation.

“Standard Alert” means from November 1 of each calendar year through and including March 31 of the following calendar year one Aircraft shall respond to dispatch within four (4) hours of Mission confirmation by the DFPC Duty Officer, unless an alternate response time is established by the MMA Unit Chief. The other Aircraft shall respond to dispatch within twelve (12) hours of Mission confirmation by the DFPC Duty Officer, unless an alternate response time is established by the MMA Unit Chief.

During each Aircraft’s Daily Availability, each Aircraft’s Contractor’s Flight Crew will be available for Missions in Standby, Authorized Break, or Release-from-Duty (all as defined and described below):

A. Standby

- i. The beginning of Standby for each Aircraft and each Flight Crew each day will be set by the MMA Unit Chief and may be adjusted from day-to-day. Schedule changes will be made with consideration of, and adherence to FAA crew rest regulations and requirements. Once Standby begins, the Standby period will continue for **12 consecutive hours**, for each Aircraft and each Flight Crew. During Standby, Contractor Personnel/Mission Aircraft shall respond to a dispatch within High Alert status or Standard Alert status, unless an alternate response time is established by the MMA Unit Chief.
 1. If the MMA Unit Chief schedules the two Flight Crews, one for each Aircraft, on a staggered schedule, Site Management Oversight and Maintenance services shall be available for a total of 12 hours and shall respond to issues occurring outside such 12 hours during the following day's Standby period. If the MMA Unit Chief schedules the two Flight Crews, one for each Aircraft, “back to back,” for overall total Standby period of 24 hours, this “back to back” 24 hour schedule of operations shall not exceed 12 consecutive calendar days. Contractor shall provide an emergency contact person and emergency contact phone number available to DFPC 24 hours a day, seven days a week.

B. Authorized Break

During Standby, requirements for response time may be modified by the MMA Unit Chief to allow Contractor Personnel time off or time away from the Assigned Work Location or to conduct routine maintenance. No deduction of availability will be made for such Authorized Breaks except when Contractor Personnel fail to return to Standby at the Assigned Work Location upon request by the DFPC and within the time allowed.

- i. During an Authorized Break, Contractor Personnel are still on Duty and must meet all Duty requirements and/or limitations set forth by the FAA, DFPC, and the Contract.

- ii. When placing Contractor Personnel on an Authorized Break, the MMA Unit chief will establish expected method of communication for call-back, and an expected time for Contractor Personnel to return to the Assigned Work Location.
- iii. Failure by Contractor Personnel to return to the Assigned Work Location within the expected time set by the MMA Unit Chief will result in Unavailability of the Contractor Personnel until the Contractor Personnel return to Standby status at the Assigned Work Location.

C. Release-from-Duty

Contractor Personnel may be released by the MMA Unit Chief and be considered off Duty prior to completion of their individual Flight Crew Duty limitation period. Once released, Contractor Personnel are not required to return to Standby status for the remainder of the same day. Service shall be recorded as fully available provided the MMA Unit Chief has approved release of the Contractor Personnel in advance.

4.1 Dispatch

For the purposes of this document, the term 'dispatch' means the PIC and aircrew:

- are briefed on mission essential details,
- have conducted mission planning and risk assessment,
- have identified flight plan and filed (if required),
- are onboard the MMA with engine running, and
- Are ready to taxi, pending clearance from ATC.

5.0 ORDERING

The purpose of this section is to provide guidance, and contact detail, for requesting and launching the MMA aircraft. MMA services must be requested by authorized personnel of approved organizations.

5.1 MMA Mission Request

- For **State, County, Fire Department and other non-federal agencies** : **Multi-Mission Aircraft (MMA) requests shall** be placed through the Denver Regional Colorado State Patrol (CSP) Dispatch
- For **In-State Federal agencies**: **MMA requests shall be initially placed through the Interagency Dispatch Center, who will place the order through Denver Regional Colorado State Patrol (CSP) Dispatch**

Contact CSP Dispatch via the State Emergency Operations Line (303-279-8855). Request to order the DFPC MMA and to speak to the DFPC Duty Officer. Orders are to include information on the current DFPC MMA Request Form, (Attachment B) and also available for download on the Colorado Division of Homeland Security & Emergency Management (DHSEM) web portal: <http://www.dhsem.state.co.us/> under the Colorado Daily Status Report Link

- For DFPC mission requests: call the DFPC Duty Officer Direct.
- For Out-of-State Requests:

MMA request shall be placed through the Rocky Mountain Area Coordination Center via the Resource Ordering and Status System (ROSS). RMACC will coordinate with the DFPC Duty Officer as needed.

5.2 MMA Mission Authorization and Communication

The DFPC Duty Officer will be the point of contact for missions from all of the above ordering sources. The DFPC Duty Officer will route unplanned mission requests to the Multi Mission Aircraft Unit Chief, or the Planning Branch Chief or their designee (in the absence of the MMAUC) for authorization. DFPC Duty Officer may serve as MMA Unit Chief if Unit Chief or acting is unavailable, if qualified. See Section 12.0 below for personnel.

The DFPC Duty Officer will route planned project flights to the Planning Branch Chief or their designee for approval. MMA Unit Chief may be designated planned project flight authorization authority by the Planning Branch Chief as appropriate.

Once authorized the project flight will be released to the on duty Mission Sensor Operator(s) (MSO) for mission planning.

The MSO will then notify the PIC and flight crew of the pending mission.

5.3 MMA Mission Notifications

For authorized missions, the DFPC Duty Officer will provide the following notification:

- General text message
- Planning Branch Chief, MMA Unit Chief and DFPC Fire Management Officer managing the mission area acknowledge receipt of text with "copy".
- DFPC Director; the DFPC Wildland Fire Management Section Chief; the Planning Branch Chief and the Operations Branch Chief will receive a brief text or email notification of mission with follow-up email providing mission information. Recipients acknowledge receipt of text with "copy"
- Mission Area Interagency Dispatch Center; DFPC Duty Officer or their designee, or the MSO may make courtesy phone call notification of mission unless mission requires Agency flight following, then MMA Manager must submit flight request/flight schedule (see Attachment B) and ensure flight following is initiated by

the Interagency Dispatch Center (see Section 10.0 Flight Following). Notification is required if MMA will be entering an FTA in the dispatch center area.

6.0 AIRCRAFT REPOSITION/PREPOSITION

Repositioning the MMA aircraft is to be based on pending missions, the Tactical Aircraft Deployment Decision Support System (TADDS) or equivalent successor decision-support system, and Agency needs. All repositioning of the MMA must be authorized by either the MMA Unit Chief or the DFPC Planning Branch Chief, and must be communicated to all parties listed in 6.3 MMA Mission Notifications.

Occasionally aircraft may need to remain overnight (RON) in an alternate location due to weather or other mission needs. This decision must be authorized by either the pilot, the MMA Unit Chief or the DFPC Branch Chief of Planning, and must be communicated to all parties listed in 6.3 MMA Mission Notifications. The pilot has ultimate go/no go authority for flight and RON.

7.0 Aircraft Prioritization

7.1 Mission Prioritization

In the event of multiple mission requests, MMA Missions are to be prioritized by the DFPC Duty Officer, with concurrence of the Planning Branch Chief, in accordance with the following:

1. Life
2. Property
3. Resources

The single overriding suppression priority is the protection of human life – both that of our pilots, air crews, firefighters and of the public.

Generally, all aviation resources are considered Initial Attack (IA) resources and are subject to diversion at any time for higher priority incidents based upon consideration of safety and values at risk. Orders for these aviation resources should be based on actual current incident needs.

The closest resource should be considered when ordering aircraft for fire suppression.

Incident prioritization may be changed due to mission risk assessment as conducted by the pilot and aircrew.

7.2 Aircraft Diversion

In the event that the MMA need to be diverted mid-flight, the same priorities and authorities listed above in 8.1 Mission Prioritization must be used. An in-flight risk assessment should be conducted to verify mission prioritization prior to diversion.

7.3 Prioritization Communication

Mission prioritization or diversion is to be communicated to all parties listed in 6.3 MMA Mission Notifications.

8.0 COMMUNICATIONS

8.1 Mission Communications – Internal

In the event of mission prioritization, cancellation, diversion or other events that require internal communication with an in-flight MMA aircraft, the DFPC Duty Officer communication with the MSO or MMA pilot is to be conducted via the following:

- Direct cell phone communication with MSO (capability may be boosted with on-board subscription system)
- Google Chat or email with MSO

If no other method of communication with the MMA is available, the MMA Duty Officer may elect to contact an Agency Dispatch Center (if staffed) to contact the MMA on National Flight Follow, or Air Traffic Controller (ATC).

8.2 Mission Communications – External

The MMA are equipped with two VHF-AM radios, three VHF-FM P25 radios, one 800 MHz "IC" radio, and a textual chat tool. All MMA personnel need to be proficient with the use, operation, and programming of these communication tools. Training sessions will be conducted annually.

DFPC staff has developed a communications plan Frequency Guide for FM frequencies that should be pre-programmed into the VHF-FM radios so there are no unnecessary delays in dispatch and to relieve Flight Crew from unnecessary distractions in flight. This will also ensure frequencies are loaded properly with required tones since they can be tested on the ground before flight.

The Frequency Guide will be updated periodically to maintain its integrity and distributed annually.

**** NOTE ****Frequency lists generated by the agencies must designate whether the frequency is narrow or wide banded, using a "w" or "n" on each frequency line entry. If the frequency is received from an agency or incident does not indicate that a frequency is wide or narrow banded, and or the Tone for the frequency "ASK".

Duty Officers must ensure that primary and secondary communication frequencies are included in the flight requests. Duty Officer must also communicate to ordering entities that aircraft communications are to be on either FM frequencies or simplex Digital Trunked Radio frequencies (800 MHz). Repeated DTR frequencies are not available for use by the MMA.

The National, interagency Air Guard frequencies GD1 (National Flight Follow) and GD2 (Airguard) frequencies must be monitored at all times by an MMA aircrew member.

8.3 Radio Communications – Equipment

Pilots and MSO's must be familiar with, and capable of operating the radio equipment installed in the aircraft to which they are assigned.

It is also important to have some understanding of programming frequencies in narrow or wide band as well as how to identify if a frequency is narrow or wide band when changing channels. Also important is how to change from narrow to wide band and wide to narrow band, and how to set a tone for the frequency.

When programming aircraft or handheld FM radios, personnel are assuming that by entering four (4) digits beyond the decimal point, that they are narrow banding that channel. THIS IS A MISCONCEPTION! Radios capable of narrow banding require that each channel be specifically programmed in the narrow band mode. The radio display will show that the frequency that is narrow banded is marked with a small "n". Just because FM frequencies are shown out to 4 digits past the decimal point does not mean that the frequency will modulate in the narrow band mode. Any frequency can be programmed to modulate either in wide or narrow-band. In order to get a frequency to modulate in narrow-band mode, the unit itself must be physically programmed to do so.

Additional considerations:

- I. Tones a) How to tone a frequency b) How to tone the Guard frequency.
- II. Guard a) How to narrow band and assign a tone to guard
- III. Understanding FM Wide Band And Narrow Band Issues

Most Federal Agencies are operating with FM radio frequencies between 162.0000 MHz and 174.0000 MHz that transmit and receive in the narrow-band mode.

Cooperating Agencies may be working with frequencies in the wide-band mode. These frequencies are usually below 162.0000 MHz.

8.4 USE OF THE GUARD FREQUENCY

The Guard frequency in the past has been mistakenly thought of as an emergency frequency only. This is a common misconception, as the Guard frequency has a number of uses, including emergency. The Guard Frequency can be used for:

- 1) Initial contact to an incident if the incident frequency is not known or is not responding.
- 2) Recall/ Redirect of the aircraft.
- 3) Emergency communications

The Guard frequency (168.625 Tx/Rx with a Tx only tone of 110.9) is a common Frequency that can and should be monitored by everyone.

Pilots must monitor Guard when the aircraft is utilized in a tactical situation, e.g.. fire dispatch.

There have been many serious incidents that have had successful outcomes because ground personnel and aircraft crews utilized the guard frequency correctly.

Guard is not to be utilized for routine conversations or business, but only for the three items listed above.

8.5 Transponder Code Usage

Pilots will input a transponder code of "1255" any time the aircraft is being operated on a fire incident. The pilot will use the proper codes when operating outside the fire environment as dictated by the FAR's for VFR or when ATC assigns a code.

9.0 FLIGHT FOLLOWING

Flight Following is required for ALL MMA flights. Flight following procedures will vary, depending on whether the flight is by the FAA (IFR Flight Plan) or on an Agency flight plan.

9.1 FAA Flight Plans and Flight Following

PIC shall file, open, and operate on a FAA VFR (Visual Flight Rules) or IFR (instrument flight rules) flight plan, as applicable, for all flights. Contractor flight plans are not acceptable. Flight plans shall be filed with the FAA prior to takeoff. Most MMA missions will be performed with FAA flight plans and flight following.

9.2 Interagency Fire Dispatch Center (Agency) Flight Plans and Flight Following

Required when an FAA Plan is Not Filed, or for low elevation or VFR mission flights below FAA range.

MSO or duty officer will initiate flight request with the appropriate agency dispatch center with submission of a Flight Request Flight Schedule Form (See Attachment B) prior to departure.

MSO or PIC must confirm positive flight following with agency dispatch center prior to departure, using one of the two types of Agency flight following:

- **Radio Check-In-** Requires verbal communication, from the PIC, via radio every 15 minutes. The agency dispatcher will log the MMA call sign, latitude, longitude and heading.
- **Automated Flight Following (AFF)** - AFF is the preferred method of Agency flight following. If the MMA and flight following office have AFF capability, it shall be utilized. If the system becomes inoperable, the PIC must use radio check-ins with the Agency Dispatch Center. The procedures for use of AFF are outlined in Chapter 20 of the National Interagency Mobilization Guide.

9.3 If the Flight Plan Changes Enroute

Any member of the aircrew shall give a position report and the updated flight plan corrections to the dispatcher, or the DFPC Duty Officer, via the radio, phone, text, or chat tool, as appropriate.

9.4 Flights within a FTA or TFR (applicable under either FAA or Agency flight following)

Pilots or MSO will make contact with the controlling agency or aircraft (ATGS) to request permission to enter and operate as described in SECTION III: FLIGHT MISSIONS. Pilots will follow all instructions, including flight following, of the controlling agency when operating within FTAs or TFRs.

10.0 AIRSPACE COORDINATION / DECONFLICTION

Safety, effectiveness, and efficiency are often established in the first minutes of the mission. The MMA follows the following standard procedures for all firefighting aircraft.

10.1 Fire Traffic Area Procedures

No aircraft may operate within the FTA (see Attachment C) unless they are in compliance with the Three C's:

1. Communications: must have communications with aerial supervisor on assigned frequency.
2. Clearance: must have clearance from aerial supervisor to enter the FTA.
3. Comply: must be able to comply with aerial supervisor instructions.

- The FTA is a standard incident airspace configuration used to provide aircraft separation, safety and efficient utilization.
- Incoming aircraft must attempt initial contact with the aerial supervisor when 12 nm from the incident. (12 nm Initial Contact Ring)
- If communications are not established, no inbound aircraft may cross the 7 nm (NOCOM) ring.
- When communications are established with the aerial supervisor, incoming aircraft will be given operating altitudes and instructions.

MMA shall enter the FTA at 12 nautical miles from the center point of the incident. Aerial supervision personnel must follow the procedures listed below. There are three scenarios:

- Aerial supervision is on scene.
 - a) Notify the dispatch center of your position.
 - b) Change to incident frequencies.
 - c) Give 12-mile radio call to aerial supervision. Give your location, altitude and intended mission.

- d) Obtain clearance into FTA (as described in SECTION III: FLIGHT MISSIONS)
- Aerial supervision is not on scene, but other aircraft are.
 - a) Notify dispatch of your position.
 - b) Change to incident frequencies.
 - c) Give 12-mile blind radio call on Victor (AM). Give your location, altitude, and intentions. An on scene aircraft should respond on Victor.
 - d) Obtain clearance into FTA (may not be a factor if above 18,000' MSL)
 - e) Enter the incident airspace, as briefed with on scene aircraft.
 - f) Follow normal procedures if you are to be the ATGS platform. (See FAA Guidance: Aerial Supervision Guide Pg. 84)
- There are no aircraft on scene.
 - a) Notify dispatch of your position.
 - b) Give 12-mile blind radio call on Victor (AM). Give your location, altitude, and intentions.
 - c) Call the IC/ground personnel on the assigned FM air-to-ground frequency and verify no other aircraft are on scene.
 - d) Proceed to the incident. Stay at least 2,500' AGL and watch for other aircraft.
 - e) Notify dispatch you are on scene and your intentions.
 - f) Follow normal procedures if you are to be the ATGS platform.

11.0 PERSONNEL & PASSENGERS

MMA will generally be staffed with a pilot that meets contract requirements and a mission sensor operator (MSO) that is fully trained and is competent with the sensor equipment. A Multi Mission Aircraft Chief of Party (MMACOP) also needs to be available for each mission (this position can be combined with the MSO), but is not required to be on-board for a point-to-point flight. An additional passenger may be added to facilitate the mission if authorized by the Planning Branch Chief or MMA Unit Chief. Authorization is for aircraft oriented personnel only.

Each MMA is staffed with the following:

- Pilot In Command (PIC)
- Mission System Operator (MSO)/Multi Mission Aircraft Chief of Party (MMACOP)

If extensive radio traffic is anticipated, an additional passenger (MSO or authorized personnel) may be appropriate to manage mission radio traffic.

All assigned DFPC aircrew and attached agency firefighting personnel shall follow the operating procedures established in this plan. Only trained and qualified DFPC personnel will fly on DFPC aircraft to, from, and on operational flights. Any other passenger requests must be made to the DFPC Duty Officer, who works through the chain of command to obtain approval for these requests.

The DFPC and Contractor maintain the aircrew and equipment capable of responding to an emergency request during the MAP in accordance with this operating plan.

11.1 Pilots

The standard flight crew for each MMA includes one (1) PIC, certified to DFPC standards listed in the MMA contract.

11.2 Mission Systems Operator (MSO)

The Mission Sensor Operator analyzes and synthesizes data gathered by MMA sensing, processing, and communication systems, and integrates the information into the Colorado's Wildfire Information Management System (CO-WIMS) so that it can be available to wildfire managers across the state. The MSO may be tasked to provide assistance to Incident Commanders (ICs) regarding fire behavior, weather monitoring, assisting crews with access, operational mapping, and communication links.

- **Standards**
 - a) Should be qualified to the minimum standards of a Fixed Wing Flight Manager – Special Use and will be MMACOP on all flights.
 - b) Completion of specialized training provided by the contractor on operation of the MMA sensor and communication systems. A specific training plan is included in the MMA contract.
 - c) The MSO, in concert with Contractor, will combine known wildland firefighting procedures with proven ISR techniques and procedures to create the unique Fire Fighting Sensor Operator tactics. The Fire Fighting Sensor Operator tactics will be tailored to provide Incident Commanders with the critical information needed to locate, assess, and subsequently contain fires.

- **Duties & Responsibilities**
 - a) Follow policies and procedures as a crewmember of the MMA to provide quality products from the sensors.
 - b) Ensure proper frequencies are programmed for the pending missions.
 - c) Provide oversight to MMA operations in support of fire detection, fire suppression, wildland urban interface situations, and other management projects.

- d) Provide aerial decision support in the suppression of wildland fires.
- e) Helps determine incident needs and suppression strategies.

- Standards

- a) Qualified to NWCG standards as a Single Resource Boss, and as an Incident Commander Type 4 (ICT4) trainee (qualified ICT4 preferred).
- b) Should be qualified to the Interagency Aviation (IAT) Guide standards: [https://www.iat.gov/docs/IAT Guide 2014 0331.pdf](https://www.iat.gov/docs/IAT_Guide_2014_0331.pdf)) for a Fixed Wing Flight Manager – Special Use, or National Wildland Coordinating Group (NWCG) equivalent.
 - Duties & Responsibilities (see DFPC Aviation Plan duties for Flight Manager/Chief of Party)
 - i. Briefs pilots on missions, frequencies, flight routes, hazards, flight following, passenger briefing requirements and any other related information required.
- b) Checks the pilots' qualification cards and aircraft data cards for approval and currency. Distinguish the difference between Point to Point versus Mission specific Qualification Card.
- c) Ensures that flights are safely conducted and do not deviate from filed Flight Plans or Mission Profiles without prior authorization.
- d) File appropriate agency flight request forms if needed.
- e) Record aircraft operations with DFPC contract administration forms (Daily Diary, Daily Operations Sheet or equivalent). Initial the flight invoices and route them to the Aviation Specialist or other designated person in the Aviation Branch.
- f) Serve as Flight Manager.
 - i. Receive mission requests from the Duty Officer and relay to the Pilot and MSO.
 - ii. Provide information, intelligence and knowledge of wildfire suppression operations to the pilot and flight crew for mission planning.
 - iii. Work jointly with the pilot-in-command and aircrew members to ensure safe, efficient flight management of missions other than point-to-point flying; e.g., reconnaissance below 500 feet, infrared, aerial photo, and other missions requiring special training and/or equipment.

- iv. Ensure appropriate risk management processes are followed and documented for the mission.
- v. Serve as DFPC representative for contract administration.
- vi. Implement and follow necessary agency dispatch center flight following procedures (if applicable).

11.3 DFPC MMA Duty Officer

The DFPC Duty Officer is a functional position that is currently staffed year round during the standup of the MMA. In the future it may be modified to be filled at higher levels of fire activity or generally higher PL's. Generally, the Duty Officer will be an assignment filled by other members of the DFPC organization on an as needed/as available basis. The person filling this role provides assistance to the Branch Chiefs and is an initial primary point of contact for MMA orders.

- Duties & Responsibilities
 - a) Gather, update, and apply situational information relevant to operations.
 - b) Authorize and prioritize MMA missions.
 - c) Ensure the safety, welfare, and accountability of assigned personnel.
 - d) Ensure that a MMACOP is assigned to all project/non-fire flights.
 - e) May serve as MMACOP if qualified and as needed (see above duties for MMACOP).
 - I. Order the mission by relaying mission request information to the MMA Unit Chief or their designee.
 - II. Notify appropriate interagency dispatch centers as a courtesy if flight following not requested.
 - III. Request flight following from interagency dispatch centers if appropriate (see Section 8.0 Flight Following).

11.4 Passengers

Even though the pilot is in command, passengers have the right and the obligation to communicate concerns to an aircrew member or the pilot, and to terminate the flight if they feel the aircraft or conditions are unsafe.

Passengers are responsible for communicating with MSO and pilot before flight on the following:

- Purpose of flight (why)
- Destination of flight,

- Duration of flight,
- Date and time of flight, and
- Number and weight of passengers and gear.

The passengers must also report any unsafe procedures or problems to the pilot.

****The pilot shall not permit any passenger to ride in the aircraft or any cargo to be loaded therein unless authorized by DFPC Branch Chief of Planning, the MMA Unit Chief, or their designees.**

11.5 Passenger Briefing Before Flight:

(FAR 135.117) Before each takeoff, the pilot in command of an aircraft carrying passengers shall ensure that all passengers have been verbally briefed on, at a minimum:

- 1) Smoking No smoking on the aircraft.
- 2) Use of safety belts and shoulder harness.
- 3) Location of, and means for, opening the aircraft doors and emergency exits.
- 4) Location and use of survival equipment, including the ELT.
- 5) Location and operation of the fire extinguishers.
- 6) Location and operation of fuel and electrical shutoffs.
- 7) When a flight involves extended over water operations, ditching procedures and the use of required floatation equipment.

11.6 Internal Cargo:

The pilot shall ensure that all cargo is properly loaded and secured; no loose items are to be carried in the cargo or cabin areas. Contractor will supply adequate cargo nets, straps, etc .necessary for cargo security.

12.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

For operational personnel the minimum PPE for flights shall consist of non-synthetic (natural fiber) materials or Nomex clothing, shoes or boots that fully cover the feet, and long pants that overlap the shoes when in the seated position. Long sleeve shirts are recommended. Personnel may be required to wear additional or supplemental PPE when such equipment is mandated by the local user unit's policy. The MSO will provide guidance for all passenger PPE requirements.

Executives, administrative staff, and non DFPC personnel may wear uniforms or business casual attire for point to point flights.

Each MMA is equipped with a First Aid Kit and Survival Kit with sufficient equipment to sustain personnel for a 24-hour period.

13.0 FLIGHT HOUR & DUTY LIMITATIONS

13.1 Flight Time

- All Flight Time, regardless of how or where performed, shall be reported by each Flight Crew member and used to administer Flight Time and Duty Time limitations.
- Flight Time to and from the location of the MMA as a Flight Crew member (commuting) will be reported and counted toward limitations if it is flown on a Duty day. Flight Time includes, but is not limited to: military Flight Time; charter; flight instruction; 14 CFR 61.56 flight review; flight examinations by FAA designees; any Flight Time for which the Flight Crew member is compensated; or any other Flight Time of a commercial nature whether compensated or not.
- Flight Time for a Flight Crew member shall not exceed a total of 8 hours per day.
- During any 14 consecutive day period, each pilot shall have two full days off-Duty. Days off need not be consecutive.
- Pilots accumulating 36 or more flight hours in any 6-consecutive duty-days shall be off duty the next day. Flight time shall not exceed a total of 42-hours in any 6-consecutive days. After any 1-full off-duty day, pilots begin a new 6-consecutive day duty-period.
- Point-to-point (airport to airport) flights with a pilot AND co-pilot if applicable, shall be limited to 10 flight hours per day (an aircraft that departs "Airport A" flies reconnaissance on a fire, and then flies to "Airport B," is not point-to-point).

13.2 Pilot Duty Time

- Duty time includes Flight Time; ground Duty of any kind, and Standby or Alert Status at any location. This restriction does not include "on-call" status outside of any required rest or off-Duty periods.
- During times of prolonged heavy fire activity, the DFPC may issue a notice reducing the pilot Duty-day/Flight Time and/or increasing off-Duty days on a geographical or agency-wide basis.
- After any 1 full off-Duty day, pilots begin a new 6 consecutive day Duty period.
- Assigned Duty of any kind shall not exceed 14 hours in any 24 hour period.
- Within any 24 hour period, pilots shall have a minimum of 10 consecutive and uninterrupted hour's off-Duty immediately prior to the beginning of any Duty-day.
- Local travel up to a maximum of 30 minutes each way between the work site and place of lodging will not be considered Duty time.
- When one-way travel exceeds 30 minutes, the total travel time shall be considered as part of the Duty day.
- Flight Crew may be relieved from Duty for fatigue or other causes created by unusually strenuous or severe Duty before reaching Duty limitations.

- When members of the Flight Crew act as a mechanic, mechanic duties will apply as flight hours on a one-to-one basis toward flight hour limitations.
- The contractor shall be responsible to ensure that any relief, additional, or substitute pilots reporting for Duty under the Contract shall meet all requirements in the contract and comply with duty limitations under 14 CFR 135.

14.0 AIRPORTS & FACILITIES

The Main Operating Base (MOB) for both MMA is Bode Aviation at Centennial Airport in Centennial, CO. When based at the MOB each MMA must be kept in the hangar to the greatest extent possible. There is office space, rest area and a flight planning area at the MOB.

There are Forward Operating Bases (FOB) located throughout Colorado. When stationed at a FOB a leased hangar space may be available. These locations include, but are not limited to:

- Akron, CO
- Alamosa, CO
- Canon City, CO
- Colorado Springs, CO
- Cortez, CO
- Craig, CO
- Durango, CO
- Fort Collins/Loveland, CO
- Grand Junction, CO
- Montrose, CO
- Pueblo, CO
- Rifle, CO

15.0 SECURITY

15.1 Aircraft Security

While stationed at the MOB, the required hangar provides the necessary security for the MMA. However, when operating from one of the FOBs, secured hangar space may not be available.

- When not secured inside a hangar, the MMA shall be secured with at least two methods from the following list (these methods are also listed in the Contract and Aviation Plan):
 - a) Keyed starter switch
 - b) Keyed master power switch
 - c) Hidden battery cutoff switches
 - d) Hidden start relay switches
 - e) Throttle/power lever lock
 - f) Mixture/fuel lever lock

- g) Locking fuel cutoff
- h) Locking tie-down cable
- Unacceptable methods of securing the MMA include:
 - a) Locking aircraft cabin doors
 - b) Fenced or gated parking area

15.2 Airport Security

It is everyone's responsibility to provide a safe and secure work environment. All required personnel receive training in recognizing suspicious activity at airports.

If suspicious activity is noticed, the witness must immediately call local authorities (911) or 1-800-GA-SECURE. The witness must also inform co-workers, the Aviation Unit Chief, and the MMA Unit chief.

IF YOU SEE SOMETHING, SAY SOMETHING

16.0 REPORTS & RECORDS

16.1 SAFECOM

SAFECOM is a tool used to encourage the reporting of any condition, observance, act, maintenance problem, or circumstance that has the potential to cause an aviation or aviation-related mishap. It should also be used for reporting positive safety actions and mishap prevention measures.

The SAFECOM system is not intended for initiating punitive actions. SAFECOM data will not be forwarded to the FAA for action. The goal of the SAFECOM system is to create a "Reporting Culture" encouraging open and honest reporting of our mistakes and failures, as well as our successes. We need to learn and share our experiences, both good and bad, to improve our effectiveness and execution. The SAFECOM system is available to all DFPC personnel electronically through the Internet at <https://www.safecom.gov>.

Discussions of SAFECOMs at local level meetings encourage program participation and active reporting. SAFECOMs should be utilized in tailgate safety sessions, after action reviews, and briefings only after they have been properly managed through the system.

While it is imperative that problems and issues be addressed at the local level, it is beneficial to share problems and solutions systems-wide. Submitting a SAFECOM is not a substitute for "on-the-spot" correction(s) to a safety concern. It is imperative that safety problems and issues be addressed with everyone involved at the local level and if necessary elevated to the regional/state level and then documented in a SAFECOM. It is a tool used in the documentation, tracking and follow-up corrective action(s) related to a safety issue. While it is imperative that operation managers are notified of safety issues immediately, this notification

should be in a manner that provides for privacy and confidentiality. Managers at all levels are responsible for protecting personal data and sanitizing SAFECOMs prior to general distribution and posting to the public.

Aviation operations under Colorado operational control that have reportable events will be reviewed at the Aviation Unit Chief level. SAFECOMs are reportable by anyone who witnesses, or has specific knowledge of, an event. Reports should be sent to the Aviation Unit Chief or Aviation Specialist. SAFECOM events for DFPC aircraft/aircrews that occur on incidents under federal firefighting jurisdiction and are reported in the National SAFECOM system should be courtesy copied to the Aviation Unit Chief for comment and mitigation.

- SAFECOMs can be reported several ways, in order of preference:
 - a. Electronic SAFECOM form (provided to all DFPC aviation managers), emailed to the Aviation Unit Chief.
 - b. Paper SAFECOM form faxed to the Aviation Unit Chief, at [\(303\) 239-3811](tel:3032393811) (see Attachment D).
- The Aviation Unit Chief will review DFPC SAFECOMs. Response and mitigation measures will be forwarded to all DFPC aviation personnel
- Events that are significant in their potential to be accidents are generally classified as Incidents with Potential (IWP).
- IWP's will be reported immediately to the Aviation Unit Chief. The Unit Chief will inform the Wildland Fire Management Section Chief, the DFPC Director, and the Operations Branch Chief.
- The Aviation Unit Chief will forward incidents with implications that could improve safety on an interagency, regional, or national level to the national SAFECOM web site at www.safecom.gov.

16.2 Aircraft Use Report

The MSO completes a daily DFPC Aircraft Use Report at the end of every shift. The Aircraft Use Report is saved on the Google drive at the end of each shift. The MMAUC will review the daily diaries. This form aids aviation staff in documenting activities and compiling reports and statistics. DFPC keeps electronic copies of completed forms on record for a minimum of 10 years.

16.3 Flight and Duty Log

The MSOs maintain a Flight and Duty Log for each PIC on the Daily Diary. All Flight Time, regardless of how or where performed, shall be reported by each Flight Crew member and used to administer flight hour and Duty time limitations. Refer to the MMA Contract for more specific detail (Exhibit A-2 page 9).

16.4 Detection and Assessment Data (All uploaded mission data)

All requested data created by the MMA is uploaded to CO-WIMS and provided to the jurisdictional agency. The DFPC stores this data on a separate storage device. By creating this data bank, DFPC will be able to better position resources throughout the state, enable DFPC to have better response times to fires, and serve the citizens of Colorado more efficiently and effectively.

16.5 Aircraft Maintenance Records

The contractor maintains and stores all maintenance records in compliance with the Part 135 Operating Certificate. These records are made available, upon request, to authorized DFPC personnel for safety, contract compliance or inspection purposes.

17.0 INTERAGENCY USE

17.1 National Interagency Mobilization Guide

The MMA may be used on federal fires under the following conditions:

- The pilot and MMA are currently carded for the mission by either the United States Forest Service (USFS) or the Office of Aviation Services (OAS).
- If the MMA has been inspected and approved by the USFS or Department of the Interior (DOI), the letter of authorization, that includes approved pilots, is carried inside the aircraft.
- There exists a written MOU (Memorandum of Understanding), Interagency Agreement or other document that authorizes this use and payment for this use.
- The MMA will be operated within any limitations on its use established in the written approval.
- The MMA will be used only in situations where comparable IR and EO aircraft are not reasonably available.
- The MMA will be released when comparable federal aircraft become available to replace the MMA resource.
- Use of the MMA prior to exhausting comparable federally contracted resources must involve a "significant and imminent threat to life or property."

17.2 Colorado Statewide Cooperative Wildland Fire Management and Stafford Act Response Agreement ("Agreement")

The following highlighted items from the Agreement address specific terms for Interagency Use:

- Statewide Annual Operating Plan – The Statewide Annual Operating Plan is the document that allows use of and payment for interagency resources. The Statewide Annual Operating Plan is approved by the parties to the Agreement, including the USFS, Bureau of Land Management (BLM), Bureau

of Indian Affairs (BIA), National Parks Service (NPS), Fish and Wildlife Service (FWS), and DFPC.

- Interagency Resources - The parties to the Agreement agree to cooperate in interagency funding, staffing, and utilization of resources and facilities whenever an interagency approach is appropriate and cost effective within the limits of each party's authorities.
- Closest Forces Concept – The parties to the Agreement agree to cooperate in the guiding principle of using the closest available suppression resources for initial attack regardless of the Party to which the resources belong and regardless of which Agency has protection responsibility.
- Response to Wildland Fires - The parties to this Agreement agree to cooperate in response to wildland fires.

18.0 SAFETY

The DFPC is committed to a safe aviation program. DFPC has implemented a Safety Management System (SMS) based on the four pillars of Risk Management (Policy, Risk Management, Assurance, and Promotion). **Each component is an essential piece of a comprehensive safety-oriented management system.** All aviation employees and management staff are provided with a copy of the SMS manual and related policies, guides, and plans that support the SMS. Key elements of the SMS are risk assessments and incident reporting.

A Safety Management System (SMS) is essentially a quality management approach to controlling risk. It provides the organizational framework to construct and support a sound safety culture that actively controls its risk exposure. With increased aviation activity and decreased resources, the SMS pushes the limits of current safety strategies and practices by developing and implementing a structured management system to control risk and meet legal responsibilities in aviation operations.

Our goal is to develop a safety culture that achieves and maintains a zero accident rate. A highly successful safety culture understands that every person in the organization accepts that safety is a conscious and ongoing mindset as opposed to simply a box to be checked. We understand that safety is a dynamic non-event. Consequently, we need to maintain the capability to continuously seek out and eliminate latent defects within our systems and culture. By being proactive in this area we eliminate potential causal factors that could lead to future accidents.

The pilots will evaluate and approve all missions. On occasions, they may be asked to perform a mission that, in their judgment, is not safe. It is their responsibility to recognize and refuse all such missions. The pilot's word is final as to whether the flight is feasible and can be conducted in a safe and efficient manner. If at any time the passengers and/or helicopter manager feel that the flight or operation should be terminated for safety reasons, it is the pilot's responsibility to honor such requests in a professional manner.

Before departure the pilot must understand the mission request and have on board the applicable maps and charts. Additionally the pilot is required to be aware of weather forecasts, winds, hazards, temporary flight restrictions and all pertinent information necessary to perform the mission.

18.1 Safety Communication and Awareness

Effective communication makes the difference between an accident occurring or being prevented. Leadership/supervisors will develop positive communications with the field. Leadership and aviation users are responsible to each other to promote open lines of communication, both up and down the chain of command. Much of the information that is used to develop our publications comes from the field. The SAFECOM system, as a reporting system, fulfills both the assurance and promotion roles in accident prevention, lessons learned and safety communication. The Aviation Unit Chief, MMA Chief and Aircraft Managers are the conduit and focal point for this communication to occur frequently and routinely.

Safety communication therefore aims to:

- A. Ensure that all staff members are fully aware of the SMS;
- B. Convey safety-critical information;
- C. Explain why particular actions are taken;
- D. Explain why safety procedures are introduced or changed; and E. Convey "nice-to-know" information.

18.2 Publications

In order to facilitate communication, DFPC should routinely receive and review communications on the following:

- A. Safety Alert. The "Safety Alert" is red-bordered and will be utilized to disseminate information of a significant nature regarding aviation safety within an Agency. The three areas addressed are operations, maintenance, or publications. These "Safety Alerts" will be published on an unscheduled basis;
- B. Aviation Accident Prevention Bulletin. The Bulletin is green-bordered and will be utilized to disseminate information of a general nature regarding aircraft mishap prevention concepts, methods, procedures and efforts. Bulletins will be published on an unscheduled basis as pertinent information/subject materials become available;

C. Technical Bulletin. The "Tech Bulletin" is Blue-bordered and will be utilized to disseminate information of a general nature regarding aircraft mishap prevention concepts, methods, procedures and efforts of a technical/mechanical nature. Bulletins will be published on an unscheduled basis as pertinent information/subject materials become available;

D. Aviation Lessons Learned. The "Lesson Learned Bulletin" is Purple-bordered and will be utilized to disseminate information of a general nature regarding lessons taken from actual events, near misses, mishaps or positive events that demonstrate the effects of best practices. Lessons Learned Bulletins will be published on an unscheduled basis as pertinent information/subject materials become available;

E. Information Bulletin. The orange-bordered document is used to communicate general safety information that does not fall into the four above categories;

F. Aviation Safety Summary. An annual review of aircraft mishaps, associated statistical data, and trend analysis will be published and distributed following the mishap reporting year; and

G. SAFECOM Summaries. These are issued by the USFS during the fire season and maintain awareness of safety trends and lessons learned distributed during peak seasonal activity.

19.0 **RISK MANAGEMENT**

RISK MANAGEMENT

Risk assessments are an important part of risk management. An initial Risk Assessment and Mitigation Evaluation has been completed for each mission profile and documented. As MMA operations continue and additional risks are identified they will be documented along with mitigations. These additional mitigations will be incorporated into the MMA Risk Management Plan. The profiles include:

- ISR Fire Intelligence, Active Fire, And Reconnaissance Missions
- Air Tactical Missions
- All Risk Missions & SAR Support

Point-To-Point Transportation Flights: Risk management enables personnel at all levels to do exactly what the term implies; manage risks. 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 planning, risk analysis and management is applied

The Risk Management Process is in place to ensure that critical factors and risk of the work environment are considered during decision making. Risk management utilizes a five-step process and MMA Mission Risk Management should include the following steps:

19.1 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.

19.2 Assess Hazards/Risks

Hazard or Risk assessment involves weighing the degree of risk associated with each threat against the objectives of the mission and organization. Whenever a mission is requested that does not fit into the parameters of the above-mentioned mission profiles, a Risk Assessment and Mitigation Worksheet must be reviewed by the MMA Unit Chief and approved by the Aviation Unit Chief.

19.3 Develop Controls/Make Decisions

Identify the control options for all risks that exceed acceptable levels. Start with the highest risk and work down.

19.4 Implement Controls/Execute and Monitor

Implement the plan and ensure that the risk controls are in place. Ensure that people know and do what is expected of them. Continually evaluate the effectiveness of the controls and ensure that the risk and benefits remain in balance.

19.5 Supervise and Evaluate

Note any changes to the operation, equipment, environment, and/or people and how they may affect the plan. Remember that risk management is a continuous process! Adjust risk controls as necessary. Maintain your situational awareness at all times so that you can identify and adjust to unexpected as well as expected threats.

19.6 Specific Hazards and Mitigations

- **Flight Hazard Map** - In an effort to minimize the hazards of flight, each aviation operational site/base will normally have a Flight Hazard Map posted in an area available to pilots and aircrew, which will allow them to readily locate the following types of flight hazards:
 - a) Power lines/wires
 - b) Towers (radio/TV/cell phone)
- **Other Aircraft**

- a) To minimize the danger of a midair collision, each MMA flies with recognition lights on when within 10 miles of a major airport or active aviation operation such as a wildfire suppression project.
- b) All aircrew members watch for other aircraft and notify the pilot immediately when other aircraft are spotted.
- **Military Training Routes and Operation Area (MTRs and MOAs)**
 - a) PICs must familiarize themselves with all military training routes and areas in their intended area of operation.
 - b) The hours of operation, altitudes, etc., of all military training routes and areas are listed in the AP/1B, Area Planning, Military Training Routes, North and South America.
- **Bird Strikes** - Each year aircraft are severely damaged from striking large birds such as: geese, swans, and eagles, in some cases with disastrous results. Pilots should avoid area/altitudes where birds are present to minimize this risk, whenever possible.

Risk assessment and mitigation needs to be continuously evaluated. DFPC conducts an annual review of MMA operations, SMS, base reviews and relevant documents.

20.0 INCIDENTS / ACCIDENTS

Any accident, incident, or incident with potential must be documented by the MSO on the daily diary and reported to the MMA Unit Chief as soon as possible. The MMA Unit Chief will notify the Branch Chief of Planning and Aviation Branch Chief who will continue notifications as necessary. A SAFECOM shall be submitted and allowed to progress through the standard channels for all incidents and accidents.

Follow MMA Contract specifications for MISHAPs, accidents, incidents, and incidents with potential. See Exhibit A-2, page 10 of the MMA Contract for more information.

Attachment A

**Colorado Division of Fire Prevention and Control
Multi-Mission Aircraft - Duty Officer Tracking**

Request Date: _____

Request Time: _____

MISSION REQUESTED					
Date Needed				Time Needed	
Incident Type	<input type="checkbox"/> Wildfire <input type="checkbox"/> Other-Specify: _____			Incident Name	
Mission Profile Requested	<input type="checkbox"/> Electro-Optical & Infrared Sensor Specific Needs: <input type="checkbox"/> Perimeter <input type="checkbox"/> Spot Fires <input type="checkbox"/> Fire Location/Detection				
	<input type="checkbox"/> Air Tactical Group Supervision (ATGS)				
	<input type="checkbox"/> All Hazard				
	<input type="checkbox"/> Point to Point Transportation				
REQUESTOR INFORMATION					
Requestor Name				Requestor Agency	
Requestor Title				Requestor Phone	
INCIDENT CONTACT INFORMATION					
Name				Phone Number	
Incident Position					
Ground Contact Name				Radio Frequency	
Air Contact Name				Radio Frequency	
INCIDENT LOCATION INFORMATION					
County					
General Location					
Longitude (decimal minutes)					
Latitude (decimal minutes)					
Bearing		Distance		From	
OTHER INCIDENT AIRSPACE INFORMATION					
Other Known Aerial Hazards					
Special Use Airspace					
Military Training Route					
Military Operations Area					
Notes:					
Approved By				Date	Time

Colorado Division of Fire Prevention and Control Multi-Mission Aircraft - Duty Officer Tracking

Incident Name: _____

Incident #/Type: _____

Action	Date	Time	Notes
Receive Mission Request			
Follow-up with Ordering Agency (if needed)			
Contact DFPC MMA Flight Manager			
Mission Approval			
Mission Prioritization (if needed)			
Notify RMACC and affected Interagency Dispatch Center(s)			
Notify affected DFPC Area and Regional FMO(s)			
Notify DFPC Staff (Director, Section Chief, Aviation Branch Chief, Operations Branch Chief) of mission and departure time			
Non-Fire Incidents: notify DHSEM Duty Officer			
Notify DFPC FMOs and Staff when mission is complete and aircraft is safe on the ground			

Duty Officer Name: _____

Duty Officer Signature: _____

ATTACHMENT B

DFPC MULTI-MISSION AIRCRAFT REQUEST ORDER FORM - 2016

TO ORDER MMA AIRCRAFT

CALL CSP DISPATCH @ 303-279-8855 and ask for DFPC DUTY OFFICER

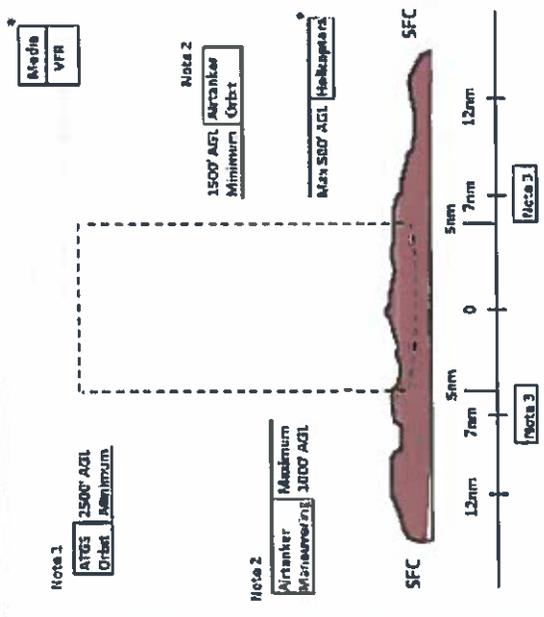
Request Date: _____ Request Time: _____

MISSION REQUESTED	
Date Needed	Time Needed
Incident Type	Incident Name
<input type="checkbox"/> Wildfire <input type="checkbox"/> Other-Specify: <input type="checkbox"/> Color & Infrared Sensor <input type="checkbox"/> Specific Needs: <input type="checkbox"/> Perimeter <input type="checkbox"/> Spot Fires <input type="checkbox"/> Fire Location/Detection <input type="checkbox"/> All Hazard	
Mission Profile Requested	<input type="checkbox"/> Point to Point Transportation
MISSION REQUESTOR INFORMATION (Sheriff, Fire Chief, FMO etc.)	
Requestor Name, Title and Agency	Requestor Phone, Email and/or Radio Frequency
INCIDENT CONTACT INFORMATION	
Name	Phone Number
Incident Position	
Ground Contact Name	Radio Frequency
Air Contact Name	Radio Frequency
[Specify what intel, to who/where, and how you want it sent from the plane to ground]	
INCIDENT LOCATION INFORMATION	
County	
General Location	
Latitude (specify format)	
Longitude (specify format)	
Bearing	Distance From
OTHER INCIDENT AIRSPACE INFORMATION	
Other Known Aerial Hazards	
Special Use Airspace	
Military Training Route	
Military Operations Area	

Fire Traffic Area (FTA) 01 May 2013

*** Clearance is required to enter the FTA ***
 Initial Radio Contact: 12 nm on assigned air tactical frequency.
 No Radio Contact: Hold a minimum of 7 nm from the incident.

Notes: Airlander maneuvering altitude determines minimum airlander and ATGS orbit altitudes. Assigned altitudes may be higher and will be stated as MSL.



- Note 1 1000' min. separation between ATGS orbit and airlander orbit altitude.
- Note 2 500' min. separation between airlander orbit and maneuvering altitude.
- Note 3 On arrival reduce speed to cross 7 nm at assigned altitude and 150 KIAS or less.

- Helicopters Fly assigned altitudes and routes.
- Medias: Maintain VFR separation above highest incident aircraft or position and altitude as assigned by controlling aircraft.

Airlander Base As Assigned	Air Guard	Air To Air	National Flight Following
108.625 Tx Tone 110.0	As Assigned	108.650 Tone 110.0 TX and RX	

National Interagency Airspace: <http://airspacecoordination.org>

Incident Airspace Reminders

Fire Traffic Area (FTA)

- The FTA is a communication protocol for firefighting agencies. It does not pertain to other aircraft that have legal access granted by the FAA within a specific TFR.
- The FTA should not be confused with a TFR, which is a legal restriction established by the Federal Aviation Administration to restrict aviation traffic while the other is a communication tool establishing protocol within firefighting agencies.
 - Participating aircraft must adhere to TFR policies as established by the FAA.
 - For example, if the TFR boundary of a polygon exceeds the 12-mile initial contact ring, clearance will still be required in order to enter the TFR.
 - If the TFR boundary is within the 12-mile ring, proceed with standard FTA communication procedures.

Temporary Flight Restriction (TFR)

- All assigned/ordered aircraft must obtain clearance into or the incident TFR by the on scene aerial supervisor or the official in charge of the on-scene emergency response activities.
- Aircraft not assigned to the incident must stay clear the TFR unless communication is established with the controlling entity (ATGS, ASM, Leadplane, etc.) and authorization is given to enter/transit the TFR.
- The first responding aircraft, typically on extended attack incidents, must have reasonable assurance that there are no other aircraft in the TFR by making blind calls on the TFR frequency and double checking with ground personnel (IC, OPS, or Helibase).
- There may be multiple aircraft operations areas within a single TFR.
- Remember - Non-incident aircraft may enter the TFR under the following conditions:
 - The aircraft is carrying law enforcement officials.
 - The aircraft is carrying properly accredited news representatives.
 - The aircraft is operating under the ATC approved IFR flight plan.
 - The operation is conducted directly to or from an airport within the area, or is necessitated by the impracticality of VFR flight above or around the area due to weather, or terrain; notification is given to the Flight Service Station (FSS) or ATC facility specified in the NOTAM to receive advisories concerning disaster relief aircraft operations; and the operation does not hamper or endanger relief activities and is not conducted for observing the disaster.
- A ROSS order or Aircraft Dispatch Form is not a clearance into a TFR.

Further Information: Interagency Aerial Supervision Guide, PMS 505

