

# MNICS FLIGHT FOLLOWING & FLIGHT MANAGEMENT PROCEDURES GUIDE



**February 16, 2018**

## **I. Introduction**

This Guide describes procedures for requesting, dispatching and flight following fire suppression aircraft in Minnesota. Specific information that describes procedures in operating plans for each Helibase, Airtanker Base or Dispatch Office must be in compliance with this Guide. This Guide should be used as a reference document in conjunction with the *MNICS Mobilization Guide* for all MNICS Agencies to understand how aircraft are ordered, dispatched, prioritized and tracked throughout Minnesota.

This Guide is referenced in the *Minnesota DNR Forestry Aircraft Operations Policy and Standard Operating Procedures* policy document.

## **II. Purpose**

The intent of this guide is to give a brief overview of the multiple ways that aircraft are requested, dispatched, and tracked. Specific Helibase or Airtanker Base plans should be consulted for further direction.

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### **IV. Radio Frequency Use and Capabilities**

#### **A. MN DNR Fire Air Net Frequencies**

The Fire Air Net system in Minnesota provides statewide coverage for aircraft, is maintained and operated by the DNR in conjunction with MN DOT and MNIT, and is used by agency, interagency and contract aircraft. It is a statewide system that incorporates seven repeaters and two simplex towers with the same RX frequency (151.3700) and two TX frequencies (151.3700 for simplex and 156.1350 for the repeaters). All frequencies use tone guards (see MNICS Aviation Program radio briefing card for a map of the Air Net system and a list of frequencies.) The system uses digital reception and transmission, with analog systems built in for redundancy.

All aircraft, except DNR detection aircraft and Air Attack platforms, on point-to-point or mission flights should establish/terminate flight following, and confirm Automated Flight Following (AFF) on one of the Fire Air Net frequencies. Dispatchers at the Minnesota Interagency Coordination Center (MNCC) Aviation Desk (Call Sign – “Fire Center”) and the six Airtanker Bases, located in Ely, Bemidji, Brainerd, Hibbing, Princeton and Warroad will monitor the Fire Air Net frequency at all times. The Fire Air Net frequency is to be used for flight following, dispatch, or redirection of aircraft **except when they are operating with an established alternate flight following plan.**

#### **B. DNR Area Frequencies**

There are 15 DNR Area Offices in Minnesota with each one responsible for fire protection on State and private land, excluding lands within their Areas that are protected by other MNICS agencies. Each Area is assigned a VHF-FM frequency and may use a series of repeaters (see MNICS Aviation Program radio briefing card) to provide communication with ground resources and detection aircraft.

#### **C. National Flight Following Frequency (168.6500 – Rx/Tx tone 110.9)**

The National Flight Following Frequency is used to monitor interagency and contract aircraft. MNCC Operations (call sign “Dispatch”), the MNCC Aviation Desk (call sign “Fire Center”) and Airtanker Bases will monitor the National Flight Following frequency at all times. Federally contracted and owned aircraft that are mobilized to Minnesota may make initial contact with a dispatch center on this frequency. Currently the geographic areas for coverage on National Flight Following are limited to the National Forests, making the Fire Air Net the standard statewide aviation frequency.

#### **D. Air Guard (168.6250 Tx t110.9 N)**

Air Guard is monitored at all times by all aircraft operating on Agency flight plans and by agency dispatch centers. **The primary functions of this frequency are to establish initial contact with other aircraft or emergency use while on an incident.**

#### **E. USFS VHF-FM Frequencies**

MNCC Operations (call sign “Dispatch”) is responsible for dispatching all USFS ground resources. These frequencies are also utilized by aircraft for communications with MNCC Operations and ground resources.

#### **F. BIA, NPS & FWS VHF-FM Frequencies**

The Bureau of Indian Affairs, National Park Service and US Fish & Wildlife also have VHF-FM radio systems. For a complete list of frequencies and use refer to the MNICS Mob Guide, available at [www.mnics.org](http://www.mnics.org).

#### **G. VHF-FM Air to Ground Frequencies**

There are several options for Air-Ground frequencies when on an incident:

- DNR Air/Ground 1      151.3400 t110.9 N
- DNR Air/Ground 2      159.3000 t110.9 N
- Air/Ground 70      167.9500 N
- Air/Ground 03      166.6125 N
- Air/Ground 19      168.1250 N

There is a dedicated frequency for helibase and/or Airtanker Base deck/ramp operations:

- Helibase Deck/Ramp      159.2400 t100.0 N

#### **H. ARMER (800MHz) Radio System**

Except for wildland fire agencies, the primary radio system for most County and State Emergency response agencies in Minnesota is the trunked ARMER radio system. This includes fire departments, sheriff’s offices and emergency medical helicopters. Wildland agencies in Minnesota use VHF-FM radio systems as their primary system and can communicate directly with emergency responders/firefighters on the ARMER radio system by either linking into assigned talkgroups using an additional ARMER radio or a radio capable of communicating on multiple bands (VHF-FM & ARMER) or via a patch between VHF-FM and the ARMER system created by County dispatchers as available. Federally-contracted assets, such as lead planes, tankers and scoopers, do NOT have 800 MHz capabilities.

If aircraft, engines or wildland fire agency personnel are equipped with ARMER radios they can communicate directly with emergency response personnel through mutual aid talkgroups that are designated for each Radio Region. There are specific talkgroups for each county and radio Region (see map

and list of frequencies located on briefing cards). The ARMER system is a viable alternative for communicating with the MNCC Aviation Desk or Airtanker Bases on "FRST A/G" when in extreme southern Minnesota or if the Fire Air Net and National Flight Following frequency is congested or not usable. Air Attacks often use the "FRST A/G" talkgroup when providing information to the Aviation Desk.

## **I. VHF-AM Frequencies**

The standard designated natural resource frequency (122.925) will be used for all detection, and helicopter wildfire initial attack. Border operations utilize 122.925. Aircraft should monitor 122.925 if they are not within the traffic area of an airport unless they are on an All Risk Assignment (123.025) or if they have been directed to use an alternate VHF-AM frequency. Alternate VHF-AM frequencies will be assigned by the MNCC Aviation Desk (see MNICS Aviation Program radio briefing card). All Airtanker Bases in the state use VHF-AM 120.125 for initial contact and ramp.

## **V. Types of Flights**

### **A. Point-to-Point**

Point-to-point flights originate at one developed airport or permanent helibase, with a direct flight to another developed airport or permanent helibase. These types of flights are often referred to as "administrative" flights. These flights require point-to-point approved pilots and aircraft. A point-to-point flight is conducted higher than 500 feet above ground level (AGL) except for takeoff and landing. For point-to-point flights, AFF flight following is recommended.

### **B. Mission Flights**

Mission flights are those flights that do not meet the definition of a point-to-point flight. These types of flights are often referred to as "tactical" flights. A mission flight requires work to be performed in the air (such as retardant or water delivery, reconnaissance, delivery, sketch mapping), or through a combination of ground and aerial work (such as delivery of personnel and/or cargo from a helibase to an unimproved landing site, hover exit, cargo free-fall, aerial seeding or aerial herbicide projects). The pilot and aircraft must be agency approved for the mission being performed. Agency flight following utilizing AFF is recommended for all mission flights.

## **VI. Flight Requests**

### **A. MNICS Tactical Firefighting Aircraft**

All MNICS fire suppression aviation resources are shared by interagency partners and are mobilized with the "closest resource" concept. Dispatch maps, including GIS maps and/or WildCAD are used to determine the closest aviation resource. An electronic Tactical Aircraft Request Form is completed for each dispatch and includes all pertinent information: location, values threatened, other aircraft, ground contact, frequencies, known hazards and the name of the incident.

Aircraft may be located at several permanent and temporary bases throughout Minnesota. All requests for tactical firefighting aircraft will be made to the MNCC Aviation Desk through local dispatch. All

authorizations to launch come from the MNCC Aviation Desk. Agencies may give a “heads up” notice to local flight crews.

MNCC Aviation Desk will mobilize the closest available resources from any base or will re-direct or re-prioritize aircraft that are assigned to another incident. This includes the possibility of requesting resources from multiple bases for a single incident. **The standard is to dispatch SEATs and/or FireBoss' in pairs, from either the same base or if needed from another base.**

Close coordination must occur between Airtanker Bases and the Aviation Desk. This coordination is facilitated through the use of WildCAD, the electronic Tactical Aircraft Request form, radio, and/or telephone. If aircraft have been released from an incident and are available and relatively close to an emerging incident they may be reassigned to the new incident by the MNCC Aviation Desk rather than mobilizing resources that are on the ground at one of the Airtanker Bases or helibases.

Airtanker Bases will relay information from the Tactical Aircraft Request Form or WildCAD to flight crews and will initiate mobilization of aircraft located on their ramps.

### **B. DNR Detection Platforms**

DNR Area offices request and assign flights directly with the vendors and aerial observers.

### **C. DNR Requests for Passengers, Equipment or Natural Resource Projects**

Requests from Areas, Regions, the Helicopter and Fixed Wing Specialists or the Forestry Pilot for the Cessna 310, Quest Kodiak or other CWN light fixed wing aircraft should be routed through the MNCC Aviation Desk. They will locate the appropriate aircraft, coordinate with the appropriate pilots and personnel, and make required contacts to ensure a safe and well-coordinated operation.

## **VII. Aircraft Coordination / Prioritization**

MNICS aircraft will be coordinated and prioritized at the MNCC Aviation Desk in consultation with Agency aviation managers statewide. See Chapter 50 of the MNICS Mob Guide for guidance on aircraft coordination.

## **VIII. Flight Following Systems and Procedures**

### **A. Flight Following Systems**

There are two types of Agency flight following: Automated Flight Following (AFF), and Radio Check-ins. AFF is the preferred method of agency flight following. If the aircraft and flight following office have AFF capability, it should be utilized. For short flights it may be prudent to use radio transmissions rather than AFF.

#### **1. Radio Check-in Procedures**

Radio Check-ins/Check-out flight following requires verbal communication via radio every 15 minutes. The pilot or manager will make initial contact with dispatch immediately after becoming airborne with call sign,

destination, estimated time enroute, souls and fuel on board. Flight following responsibilities remain with dispatch until transferred through a documented, positive handoff.

- Flight following for Federally-contracted aircraft, all fixed-wing tactical firefighting aircraft and ATGS aircraft is the responsibility of the Aviation Desk.
- Flight following of MN DNR detection aircraft is the responsibility of the local DNR area. Flight following for Federal or Federally-contracted detection aircraft is the responsibility of the Aviation Desk.
- Flight following for MN DNR helicopters is the responsibility of the assigned Airtanker Base.
- During the flight the flight follower will log the aircraft call sign, current location (latitude, longitude or geographic reference) and heading at each check-in.
- Aircraft must continue to monitor the appropriate VFH-FM and/or 800MHz and VHF-AM frequencies and notify the dispatcher of any proposed frequency changes during the flight.
- The pilot or manager will close out with the flight follower once the aircraft has arrived at their destination and has established local flight following with either a ground contact or ATGS, to ensure that a flight has been completed safely.
- Flight following problems should be documented through the SAFECOM system.

## **2. Automated Flight Following (AFF) Requirements and Procedures**

AFF reduces the requirement to “check in” via radio every 15 minutes, and provides a wide range of information on the flight, airspace, and other data that may be pertinent to the flight. This reduces pilot workload, clears congested radio frequencies, and provides the flight follower with much greater detail and accuracy on aircraft location.

### **a. Requirements to Utilize AFF:**

- AFF does NOT reduce or eliminate the requirement for aircraft on mission flights to have FM radio capability, and for the aircraft to be monitoring appropriate radio frequencies during the flight.
- The aircraft must be equipped with the necessary hardware (transmitter and antenna).
- The office responsible for the flight following must have a computer connected to the Internet immediately available to them.
- Office(s) responsible for flight following shall be staffed for the duration of the flight.
- The flight following personnel must be trained and have a working knowledge of AFF and must have a current username and password for the automated flight following system.

### **b. Procedures for Utilizing AFF:**

- When an aircraft is ordered, or a user requests flight following, and the above listed requirements are met, automated flight following should be utilized.
- The flight following office will log on to the AFF web site, verify that the aircraft icon is visible on the screen, and be able to quickly monitor this page at any time during the flight.
- The personnel conducting flight following will provide the pilot with FM frequencies and tones that will be monitored for the duration of the flight.
- Aircraft must continue to monitor the appropriate VFH-FM and/or 800MHz and VHF-AM frequencies and notify the flight following office of any proposed frequency changes during the flight.

- The pilot will relay the flight itinerary.
- When aircraft is initially airborne, and outside of sterile cockpit environment, the pilot, manager or ATGS will contact the flight following office via radio with the Aircraft N#, destination, souls, fuel on board, ETE and AFF status by stating:
  - “Nxxxx off (airport or helibase name), Enroute: \_\_\_\_\_, SOB, FOB and ETE and requesting AFF”.
- The flight following office will respond:
  - “Nxxxx, (dispatch call sign) you are positive AFF.” This is required to positively verify that both the aircraft and the dispatch office are utilizing AFF, radios are operational, and that the dispatcher can “see” the aircraft on the computer screen.
  - If there is a problem at this point, the flight follower will notify the aircraft that they are Negative AFF and change to radio 15-minute check-in procedures until the problem is resolved.
- If radio contact cannot be established the pilot will abort the mission and return to the airport/helibase.
- If there is a deviation from the planned and briefed flight route, the pilot will contact the flight following office via radio with the changed information.
- The originating flight following office will continue to monitor and document the aircraft’s locations for the entire flight using AFF at 15 minute increments unless a positive hand off in flight following duty has been made.
- If the aircraft icon turns “RED”, it means the signal has been lost. The dispatcher/ flight follower will immediately attempt contact with the aircraft via radio and follow normal lost communication, missing aircraft, or downed aircraft procedures as appropriate. This does not apply in situations where a positive hand off in flight following duty has been made (Ex.-helicopter flight following with air attack or there is a change in aircraft status, Ex.- Beaver planning to land and reconfigure).
- If radio contact is made after a lost signal, flight may continue utilizing 15-minute radio check-ins for flight following or until positive AFF is confirmed.
- During tactical operations below 500’ a periodic red indication is normal and does not necessitate an ‘immediate’ contact especially if flight following has been established with the incident. This should be addressed during the pre-flight briefing.
- If an aircraft is within an FTA and an ATGS is controlling the airspace, the aircraft can request flight following with the ATGS. When the aircraft departs the FTA they must resume flight following **with their designated flight following office**.
- If an aircraft is within an FTA and an ATGS is not controlling the airspace, the aircraft can request flight following with a local contact that has the capability to engage emergency procedures, should they be necessary, from dispatch. When the aircraft departs the FTA they must resume flight following with their **designated flight following office**.
- All hand-offs and changes in flight following will be documented in the flight following log.
- When the aircraft has completed the flight and landed, the pilot, manager or ATGS will contact the flight following office via radio or telephone informing them that they are on the ground.
- Flight following problems should be documented through the SAFECOM system using the process for the agency that had jurisdiction for the fire.
- Additional information about AFF can be found at: <https://www.aff.gov>

- Training on AFF can be found on <https://www.iat.gov>

## B. Flight Following Procedures

### 1. MNICS Tactical Firefighting Aircraft

All federal aviation resources and all fixed wing will be flight followed through the Aviation Desk.

Airtanker Bases in Bemidji, Brainerd, and Hibbing will flight follow MN DNR helicopters located on their ramps and MN DNR helicopters that are assigned to them.

- Bemidji – Bemidji, Roseau & CWN Helicopters at Grygla, Park Rapids, Warroad or Thief River Falls
- Brainerd – Brainerd, Princeton, Hinckley, Hill City & CWN Helicopters at Anoka
- Hibbing – Hibbing & Cloquet Helicopters & CWN Helicopters at Orr, Grand Marais & Grand Rapids

Either the MNCC Aviation Desk or appropriate Airtanker Base, as described above, are responsible to provide flight following for MNICS Agency Aircraft and will be continually staffed when aircraft are available.

### 2. DNR Detection and DNR Enforcement

DNR Area dispatchers will flight follow detection aircraft that are operating within their geographic boundaries with radio check-ins at predetermined check points that are within the required 15 minute flight following intervals. Dispatchers must be proactive in coordinating with adjacent Areas when their detection aircraft are responding to fires near the borders of neighboring Areas.

DNR Enforcement will flight follow with the Aviation Desk primarily with AFF or with 800 MHz radio check-ins at 30 minute intervals. If the Aviation Desk is unavailable, DNR Enforcement will flight follow with the Minnesota State Patrol dispatch.

DNR non-fire missions include a variety of projects such as emergency response, resource assessment, tree planting or reconnaissance. Flight following will be with the Aviation Desk or as specified in a Project Aviation Safety plan with a local contact that has the capability to engage emergency procedures, should they be necessary. A FAA flight plan is suitable if agency flight following is not available.

### 3. Non-fire Aircraft

Non-fire missions include a variety of projects. Flight following will be with the MNCC Aviation Desk or as specified in the Project Aviation Safety Plan with a local contact that has the capability to engage emergency procedures, should they be necessary.

### 4. USFWS Non-fire Aircraft

USFWS non-fire missions include a variety of projects including wildlife surveys. Flight following is initiated and terminated by the pilot-in-command (PIC) by cell phone, satellite phone or FM radio with the Aviation Desk. Flight tracking is accomplished by AFF in 30 minute intervals. Refer to the USFWS Aviation Mishap Response plan for further details.

### 5. NPS Detection and Non-fire Aircraft

NPS dispatchers will flight follow detection aircraft that are operating within their fire protection areas with radio check-ins at predetermined check points that are within the required 15 minute flight following intervals. Dispatchers must be proactive in coordinating with MNCC Operations Dispatch and/or DNR Areas when their detection aircraft are responding to fires near the borders of fire protection areas. NPS Dispatch will flight follow using AFF and/or 15 minute radio check-ins.

## **IX. Resource Tracking**

FAA flight plans and flight following, along with Flight Request Forms (flight strips) are generally used for initial mobilization or demobilization of aircraft. Aircraft are tracked on point-to-point flights when they are mobilizing or demobilizing to/from their home base due to contract work in Minnesota. Pilots are directed to contact the MNCC Aviation Desk (218-327-4582) with an estimated time of departure, destination and estimated time enroute and close out with the Aviation Desk once the aircraft is on the ground at each stop to accomplish resource tracking. For point-to-point flights, AFF flight following may be used as well.

DNR detection aircraft may utilize a Delorme InReach device to aid in resource tracking. This is not a substitute for flight following which needs to be accomplished according to radio check-in procedures.

When aircraft are on a mission flight and have requested to flight follow locally on an incident with either a ground contact or ATGS the flight following office that was originally flight following the aircraft should continue to track the aircraft using AFF.

Tactical aircraft are encouraged to establish positive radio communication with the requesting Agency. Establishing positive radio communication is important so fire managers and ground personnel are updated with aircraft status and so responding flight crews are able to obtain pertinent information relating to fire activity, other aerial resources and identified flight hazards. This is not to be confused with flight following.

Aircraft that are not MNICS Firefighting Aircraft and are procured for detection or non-fire missions will be tracked according to agency guidelines.

## **X. FAA Flight Plans**

### **A. Instrument Flight Rules (IFR)**

All flights conducted under IFR are automatically provided FAA flight following. The pilot must close out the flight plan with the FAA once the flight is completed.

### **B. Visual Flight Rules (VFR)**

Administrative flights conducted under VFR flight plans require the pilot to file a flight plan with the appropriate FAA facility. The pilot must request FAA flight following. Air Traffic Control (ATC) may or may not provide it. It is the pilot's responsibility to confirm which type of FAA flight plan will be used. The pilot shall close out the flight plan with the FAA once the flight is completed.

## **XI. Mishap Response / Incident Response**

An Emergency Response Plan for each specific unit needs to be available in all dispatch and flight following offices. The office that is responsible for flight following the aircraft will initiate the Response Plan for the appropriate agency. **The Emergency Response Plan must be updated and a drill/scenario conducted annually.**

## **HELICOPTERS & FIXED WING AIRCRAFT REQUESTS 2018**

Helicopters and fixed wing aircraft (Air Tankers or Air Attack Platforms) are statewide resources and are normally located at Exclusive Use Helibases or one of the six primary Airtanker Bases. When conditions warrant some aircraft will be positioned at secondary or temporary bases.

**Requests for all tactical fire suppression aircraft, including airtankers, helicopters and air attack, will be made directly to the MNCC Aviation Desk using the "Tactical Aircraft Request" form. The request must include a name for the fire.**

Dispatch Location	Aircraft	Telephone
MNCC Aviation Desk	<u>ALL</u> Tactical fire suppression aircraft	218-327-4582

When a request is received, the MNCC Aviation Desk will create an electronic Tactical Aircraft Request Form and email it directly to the airtanker base and/or helibase. A follow-up phone call from the Aviation Desk to the airtanker base and helibase will ensure the Request is received and be the official authorization to launch.

The Aviation Desk will mobilize the closest available resources from any base or will re-direct or re-prioritize aircraft that are assigned to another incident. This includes the possibility of requesting resources from multiple bases for a single incident. Fireboss' and/or SEATs will normally be dispatched in pairs unless specified one aircraft only.

The MNCC Aviation Desk will:

- Coordinate MNICS aircraft and set priorities based on Life, Property and Resources in consultation with Agency aviation managers
- Formulate and initiate a response plan that will either
  - Redirect aircraft already committed
  - Mobilize aircraft located at other Airtanker Bases or Helibases
- Direct Air Attack to the highest priority fire
- Give input to aviation managers concerning aviation duty day and ordering additional aircraft from other sources

Aircraft will normally be on duty according to the established staffing plan based on Planning Level and Fire Danger unless conditions warrant that they should either remain on duty for "extended hours" or that they are placed in "call back" status. The MNCC Aviation Desk will ensure a plan is established for a timely dispatch of aircraft if they are recalled after being placed in "call back" status.

An aviation planning conference call occurs at 1630 daily and the release time for aircraft for that day and the start time and aircraft locations for the next day will be determined and the information sent to MNICS, Area, Region and interagency partners by 1700 daily.