CHAPTER 50 - AIRCRAFT

NICC is the sole source for large transport aircraft holding 14 CFR Part 121 Certificates and for Type 1 and 2 Call-When-Needed (CWN) helicopters.

Cooperator aircraft (State contracted, State owned, State managed National Guard aircraft, county, city or other) may be used on federal fires under the following conditions:

• Cooperator contracted aircraft also on an existing federal contract with federal aircraft and pilot cards may be utilized on federally protected lands when cooperative agreements are in place and the aircraft have been approved by USDA Forest Service/Department of the Interior letter.
• Cooperator exclusive use contracted aircraft not on an existing federal contract may be considered for approval on a case-by-case basis when cooperative agreements are in place. Approval will be by USDA Forest Service/DOI letter.
• Cooperator-owned or -operated aircraft may be utilized on federally managed fires when cooperative agreements are in place and the aircraft have been approved by USDA Forest Service/DOI letter. Cooperator Type 2 and Type 3 Helicopters or other applicable NWCG standards may be utilized on federally protected lands when cooperative agreements are in place and the aircraft have been approved by USDA Forest Service/DOI letter.
• The cooperator aircraft will be operated within limitations specified in written approval.
• The cooperator aircraft will be used only in situations where federal aircraft are not reasonably available.
• The cooperator aircraft will be released when federal aircraft become reasonably available.
• The use of Cooperator aircraft must involve a “significant and imminent threat to life or property” documented daily on the Cooperator Aircraft Use Validation Worksheet (NMG Ch 80 Forms) to document the justification for aircraft utilization.
  https://www.nifc.gov/nicc/logistics/coord_forms.htm

AIRCRAFT MOBILIZATION

When a Geographic Area has depleted local and available aircraft resources, request(s) will be placed with NICC. Documentation of special needs, threats or specific reporting instructions are critical for the proper and timely processing of each request. Aircraft assigned will remain in the Geographic Area until released or reallocated by the NICC. The following selection factors will be used when ordering aircraft:

• Initial Attack vs. Large Fire Support
• Timeliness.
• Cost effectiveness.
• Performance specifications for density/high altitude operations.
• Airtanker Types: T1 & T2 LATs, VLAT, or SEAT (closest resource, regardless of geographic area boundary).
• Special equipment (bucket vs. tanked, tundra pads, float, etc).
The following terminology will be used when requesting aircraft through NICC:

- Knots (kts.) will be the standard term used to reference airspeed.
- VORs (Very High Frequency Omni-directional Range) will be used to reference direction.
- Latitude and longitude must be provided in Degrees Decimal Minutes (DDM), utilizing GPS Datum WGS84 degrees and minutes.
- Aircraft registration numbers will be used when referencing helicopters, lead planes, and air attack aircraft. Airtankers and SEATs will be referenced by the airtanker number, e.g., T-40.

**PREPOSITIONING OF NATIONAL AVIATION ASSETS**

When Type 1 or 2 air tankers, water scoopers, Lead Planes, ASM’s, Type 1 or 2 helicopters (national aviation assets) are brought into the Geographic Area a determination will be made on a preposition location. Prepositioning to a local air tanker or helibase will be coordinated with the local center manager/dispacher. The local center will create an IROC incident and place an order to EACC in order to transfer control of the resource to the local center for dispatch and tracking purposes. All aircraft prepositioned at the request of EACC are available for local IA following national commitment guidelines. Any assignment of these resources to large/project fires will have EACC concurrence prior to assignment.

**Dispatch Requirements**

Dispatch centers hosting Eastern Area prepositioned aircraft will have a qualified Aircraft Dispatcher (ACDP) on duty during periods of aircraft availability. All national aviation resources including Type 1 and 2 Helicopters, Type 1 and 2 Airtankers, Water Scoopers, Lead Planes, and Air Attack aircraft assigned to an air tanker base or helibase will be tactically dispatched by the local dispatch center. Upon dispatch the following requirements need to be met:

- Prompt status change messages will be sent for all aviation assets (Commit, Divert, Available, Out of Service Mechanical) to all Eastern Area units and neighboring Geographic areas by the hosting dispatch center, eg:
  - COMMIT: T-40 TO MN-SUF-000123 FISH CAMP, COMMIT: BEAVER 3 TO BWCA WEST RECON, etc...
  - DIVERT: T-40 TO WI-CNF-000345 LONG LAKE
  - AVAILABLE: T-40 @ BRD
  - OUT OF SERVICE MECHANICAL: T-40 @ BRD
- Prompt submission of a kneeboard to EACC via email to wieacc@firenet.gov.

The hosting dispatch center has the authority to reroute, divert, or recall the aviation assets assigned to them. EACC will be promptly notified of any diversion/cancellation. When multiple dispatch centers have pending requests for the same aviation asset the EACC center manager or acting will prioritize the incidents based upon the information contained on the kneeboards and/or subsequent updates to it and decide on commitment.

**Release Locations**

When the airtankers or water scooper aircraft have been released, they should return to the base they were operating out of or the closest airtanker base to the incident unless prior arrangements or
ORDERING PROCEDURES

- All aircraft orders are coordinated through local dispatch centers.
- IROC is the system of record to order tactical aircraft. However, for initial attack requests, kneeboards will be acceptable, if necessary, during time critical mobilization. Kneeboards will be followed up with an IROC order as soon as possible.

Dispatch centers requesting prepositioned tactical aircraft must complete a kneeboard and submit it to EACC via email. **EACC Email:** wieacc@firenet.gov

- Requesters are encouraged to follow up with a phone call to the EACC Aircraft Coordinator.
- Hosting dispatch centers will relay ATD and ETA to the EACC Aircraft Coordinator when dispatching aircraft outside their jurisdictional area. The Aircraft Coordinator will relay that information to the requesting unit.
- Non-hosting requesting units will contact EACC when resources are released. EACC will then relay the information to the hosting dispatch center.

The following lists the minimum information needed to process an aircraft request:
  - Lat/Long (degrees, decimal minutes), bearing, and distance
  - Reload base
  - Hazards or obstacles and airspace deconfliction concerns
  - Frequencies
  - Mission Priority (for airtanker requests, this should be relayed via phone and will be entered in “Special Needs” via the New Request screen)
  - Air and Ground Contact (would like this info, if known, but should not hold up the order).
  - Descriptive Location (would like this info, if known, but should not hold up the order).
  - Elevation (for Helicopters or SEATs, if known, but should not hold up the order. Enter in “Special Needs” via the New Request screen)

- Refer to Chap. 16 of the Interagency Standards for Fire and Fire Aviation Operations (Redbook) for pilot and crew rest requirements.

GACC-TO-GACC INITIAL ATTACK ORDERING OF AIRTANKERS AND LEAD PLANES

The Eastern Area Coordination Center (EACC) may order initial attack airtankers and lead planes directly from the Southern Area Coordination Center (SACC) only when proximity of the fire allows the airtanker to respond loaded directly to the incident. All other requests will follow standard ordering procedures. The change of status of any airtanker or lead plane and flight following information will be communicated by the sending GACC using standard procedures established in the NMG, Ch. 50.

AIRCRAFT OPERATIONS

Aircraft may be used for a wide range of activities, including the movement of personnel and equipment, for suppression and preparedness, reconnaissance, aerial ignition, delivery of retardant, etc.

There are four basic sources for aircraft:

- Agency aircraft
- Exclusive Use contracted aircraft
- Call-When-Needed (CWN) or aircraft rental agreement (ARA) through the Office of Aviation Services (OAS)
Commercial Carriers Aircraft on federal incidents or carrying federal employees must be carded by interagency partners, OAS or the Forest Service. Aviation managers assigned to rotor or fixed wing aircraft are responsible for assuring that both the aircraft and pilot are currently carded for the desired mission. Commercial airlines and “End Product” contracts are exempt from the aircraft and pilot carding requirement.

**FLIGHT CREW/AIR CREW ORIENTATION**

The local unit is responsible for providing an aviation briefing to:

- Incoming aviation resources
- Aviation Safety Assistance Teams (ASAT)
- Fire and Aviation Safety Team (FAST)

**SMOKEJUMPERS - INITIAL ATTACK LOAD**

Refer to National Mobilization Guide, Chapter 50

**AIRCRAFT DEMOBILIZATION**

Flight Following will be performed on all Government or exclusive use contract aircraft being demobilized. NICC will release charter and CWN aircraft to the vendor without flight following provided no Government personnel or cargo is on board. All aircraft release information will be entered in to IROC.

**FLIGHT MANAGEMENT PROCEDURES**

**National Flight Following Frequency (168.6500 MHz)**

The National Flight Following Frequency is used to monitor interagency and contract aircraft. All aircraft on point-to-point or mission flights should establish/terminate flight following, and confirm Automated Flight Following (AFF) on the National Flight Following frequency. All dispatch centers/offices will monitor the National Flight Following frequency at all times. A CTCSS tone of 110.9 must be placed on the transmitter and receiver of the National Flight Following frequency. The National Flight Following frequency is to be used for flight following, dispatch, or redirection of aircraft. No other use is authorized.

**Types of Flights:**

**Point-to-Point**

A “Point-to-point” flight is one that originates at one developed airport or permanent helibase and flies directly to another developed airport or permanent helibase with the sole purpose of transporting personnel or cargo (this term does not apply to flights with a scheduled air carrier on a seat fare basis). These types of flights are often referred to as “administrative” flights and only require the aircraft and pilot to be carded and approved for point-to-point flight. A point-to-point flight is conducted higher than 500 feet above ground level (AGL).

**Mission Flights**

Mission flights (also known as FS Special Use Mission flights) are defined as flights not meeting the definition of point-to-point flight. A mission flight requires work to be performed in the air (retardant or water delivery, fire reconnaissance, smokejumper delivery), or through a combination of ground and aerial work (delivery of personnel and/or cargo from helibases to helispots or unimproved landing sites, rappelling or cargo let-down, horse herding). Special Use Mission Flights may require special pilot endorsements, flight
evaluations, training, and/or specialized aircraft equipment.

**FAA FLIGHT PLANS AND FLIGHT FOLLOWING**

All flights conducted under FAA Instrument Flight Rules (IFR) are automatically provided FAA flight following. Administrative flights conducted under Visual Flight Rules (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 with dispatch 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. FAA flight plans and flight following are generally used for point-to-point flights and the pilot or flight manager will contact dispatch with an estimated time of departure, estimated time en route and close out with dispatch once the aircraft is on the ground to accomplish resource tracking.

Verbal and AFF flight following is not required en route when an FAA flight plan has been filed.

**AGENCY FLIGHT PLANS AND FLIGHT FOLLOWING**

Agency flight plans are the responsibility of the pilot, to be distributed through originating dispatch office and are documented on an Aircraft Flight Request/Schedule. For mission flights, there are two types of Agency flight following: Automated Flight Following (AFF), and Radio Check-in. AFF is the preferred method of agency flight following. If the aircraft and flight following office have AFF capability, it shall be utilized. Periodic radio transmissions are acceptable when utilizing AFF. (See AFF procedures below for more information). Radio Check-in/Check-out flight following requires verbal communication via radio every 15 minutes. The dispatcher will log the aircraft call sign, latitude, longitude and heading. Agency flight following is used for all mission flights but is not required when an FAA flight plan has been filed for a point-to-point flight. All aircraft operating on Agency flight plans shall monitor Air Guard. Helicopters conducting Mission Flights shall check-in prior to and immediately after each takeoff/landing per the NWCG Standards for Helicopter Operations:

https://www.nwcg.gov/publications/510

For point-to-point flights, AFF flight following may be used as well. The pilot or flight manager will, as a minimum, contact dispatch prior to the flight with an estimated time of departure, estimated time en route, souls and fuel on board and will close out with dispatch once the aircraft is on the ground. Flight following is the responsibility of the originating dispatch office and will remain so until transferred through a documented, positive handoff. The flight following dispatch office shall be continually staffed while an aircraft is airborne. Confirmation of an aircraft’s arrival at a specified destination is required to ensure that a flight has been completed safely. It is the pilot’s responsibility to close out a flight plan. If an aircraft is overdue, it is the receiving dispatcher’s responsibility to initiate aircraft search and rescue actions. Flight following problems are documented through the SAFECOM system.

**Aircraft Flight Request/Schedule Form (‘Flight Strip’)**

Used for documenting aircraft, pilot, passenger, itinerary, and type of flight plan. Required information on this form includes (but is not limited to):

- Incident Name/Number and Request Number
- FAA Registration, “N” number and Call Sign
- Aircraft Make/Model/Color
- Pilot and Vendor Name and Contact Information
Aircraft Flight Request/Schedule Form Requirements

The Aircraft Flight Request/Schedule Form is required to be completed (regardless of the type of flight plan filed) for those flights that are:

- Point-to-Point (excludes preposition flights as directed by EACC).
- Mission flights with fuel stops or passenger pickup (not direct to an incident)
- Flights leaving the geographic area
- Flights crossing dispatch boundaries

In accordance with the guidelines above the pilot or manager is responsible for completion of the form and providing it to their current dispatch prior to take off. The type of flight plan must be documented as this information is critical for initiating search and rescue actions. Once the flight schedule form is received by the sending office, it must be emailed to wieacc@firenet.gov or with a follow up phone call. If EACC is the hiring/sending office, a form will be created and emailed to the receiving dispatch office. EACC will email the form to all the affected dispatch offices when Agency Flight Plans are filed. The form will be emailed to the National Coordination Center (NICC) by EACC for those flights leaving the geographic area.

Telephone Departure and Arrival Times: Confirmation is completed when an aircraft is contacted via radio, or the receiving dispatch center is called via telephone upon arrival at the airport. Aircraft ordered as an “A” (aircraft) request on a resource order, and which are not located on the local unit will be tracked by telephone/radio arrival confirmation.

Operational Control Hand Off: The receiving unit will notify the sending unit (via established channels) immediately when they have established radio contact with the incoming aircraft or otherwise obtained operational control of the aircraft.

Overdue Aircraft: Aircraft will be considered overdue when 30 minutes have elapsed from the ETA provided on the resource order and contact has not been established.

RESOURCE TRACKING

Responsibilities of the Sending Unit

- Obtain actual time of departure (ATD) and estimated time of arrival (ETA) from the initial departure airport from pilot/vendor.
- Relay the ATD, ETA, and type of flight plan/flight following being utilized (FAA or Agency, AFF or Radio check-in) to EACC.
- Notify EACC of any route changes, and of any delays or advances of a flight plan exceeding 30 minutes.

- On any flight requiring stops en route to a destination within the Eastern Area, instruct the pilot-in-command or flight manager to contact the EACC at 414-944-3811. Aircraft support vehicles should contact EACC at fuel stops. On any flight proceeding beyond the Eastern Area, instruct the...
pilot-in-command or flight manager to contact the NICC at 800-994-6312. Aircraft support vehicles should contact the NICC at each fuel stop.

Responsibilities of EACC

● Relay the flight itinerary and type of flight plan/flight following being utilized to the requesting unit or NICC via phone/email.
● Notify the requesting unit or the NICC in delays/advances of a flight plan exceeding 30 minutes.

Responsibilities of the Receiving Unit

● Confirm arrival of all tactical aircraft by telephone to EACC.
● Notify EACC of any delays of a flight plan exceeding 30 minutes; notify EACC of any aircraft overdue by more than 30 minutes.

AIRCRAFT SELECTION FACTORS

When selecting aircraft, several factors will be taken into consideration to determine the best aircraft for the mission. Factors may include but are not limited to:

● Day/Night: A multi-engine or turbine powered single-engine aircraft is required whenever a passenger flight will be flown within the period beginning 30 minutes after legal sunset until 30 minutes before legal sunrise.
● Instrument Flight Rules (IFR)/Visual Flight Rules (VFR): A multi-engine or turbine powered single-engine IFR approved aircraft is required whenever the flight will be in or is expected to be in IFR conditions. One pilot and a functioning autopilot or two pilots are required for IFR flights.
● Passenger & Baggage Weight: Be sure the aircraft has the weight capacity for the passengers, luggage or other material being transported. It is important to remember that weight is the limiting factor, not the number of passenger seats.
● Aircraft Speed: Check the schedules of the passengers to insure they can arrive on time in the aircraft selected. Generally, aircraft speed isn’t too important in short trips but becomes more important in long trips.
● Airports: Are the airports used in the flight suitable for the aircraft? Are the runways of adequate length? Is there fuel available for the aircraft? Will the elevation and air temperature of the airport affect the performance of the aircraft (density altitude)?
● Cost: A cost analysis must be completed for administrative flights. Normally this involves a comparison between commercial flights and agency owned aircraft but could involve a comparison between the various costs of charter aircraft.

AUTOMATED FLIGHT FOLLOWING (AFF) REQUIREMENTS AND PROCEDURES

AFF reduces the requirement to “check in” via radio every 15 minutes and provides the dispatcher with 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 dispatcher with much
greater detail and accuracy on aircraft location and flight history.

**Requirements to Utilize AFF:**

- Automated flight following 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.
- Procedures for flight requests, ordering aircraft, requirement for a Flight Manager, etc., are the same as radio check-in procedures.
- The aircraft must be equipped with the necessary hardware (transmitter and antenna).
- The dispatch office responsible for the flight following must have a computer connected to the Internet immediately available to them in the dispatch office. Dispatch office(s) responsible for flight following shall be staffed for the duration of the flight.
- Training: The flight following dispatcher must have a working knowledge of the automated flight following program (Web tracker) and must have a current username and password for the automated flight following system.

**Procedures for Utilizing AFF:**

- When an aircraft is ordered, or a user requests flight following from a dispatch office, and the above “Requirements to Utilize AFF” are met automated flight following shall be utilized.
- The dispatch office will log on to the automated flight following 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 dispatch office will provide the pilot with FM frequencies and tones that will be monitored for the duration of the flight.
- When aircraft is initially airborne, and outside of sterile cockpit environment, the pilot will contact the dispatch office via radio stating call sign, departure location, number on board, fuel on board, ETE, destination, confirmation of AFF location. 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, 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 flight route, the pilot will contact the dispatch office via radio with the changed information.
- The dispatch office will keep the AFF system running on a computer for the entire flight and will set a 15-minute timer and document the location for the duration of the flight.
- If the aircraft icon turns RED, it means the signal has been lost. Immediately attempt contact with the aircraft via radio and follow normal lost communication, missing aircraft, or downed aircraft procedures as appropriate. If radio contact is made after a lost signal, flight may continue utilizing 15-minute radio check-ins for flight following. (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.)
- When the aircraft has completed the flight and landed, the pilot or flight manager (passenger, observer, Flight Manager, ATGS, etc.) shall contact the dispatch office via radio or telephone informing them that they are on the ground.
Aircraft

Chapter 50

50 - 9

Additional information about AFF can be found at: https://www.aff.gov/

AIRTANKERS

Airtankers are National Resources and their primary mission is initial attack operations. The NICC will prioritize and allocate federal airtankers by positioning them in areas of current or predicted high wildfire danger or activity. Geographic Areas managing these aircraft will make them available for wildland fire assignments when ordered by NICC. This will be accomplished by ensuring that all support functions (i.e., airtanker Bases and Local Dispatch Centers) that are required for the mobilization of national assets (i.e. Airtankers, Lead Planes, ASMs, and Type 1 and 2 Helicopters) are staffed and maintained to support mobilizations. When a Geographic Area has depleted available VLAT or Large Airtanker (Type 1 or 2) resources, request(s) will be placed with NICC. Large Airtanker initial attack agreements between neighboring unit level dispatch centers are valid only where proximity allows the airtanker to respond loaded direct to the incident. All airtanker movement, regardless of existing border agreements, will be communicated to the NICC.

There are five (5) types of airtankers:

<table>
<thead>
<tr>
<th>Type</th>
<th>Capacity (Minimum)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VLAT</td>
<td>8,000 gallons or more</td>
</tr>
<tr>
<td>1</td>
<td>3,000 to 4,999 gallons</td>
</tr>
<tr>
<td>2</td>
<td>1,800 to 2,999 gallons</td>
</tr>
<tr>
<td>3</td>
<td>800 to 1,799 gallons</td>
</tr>
<tr>
<td>4</td>
<td>Up to 799 gallons</td>
</tr>
</tbody>
</table>

Airtanker Management

To ensure consistent utilization, rotation and management of the national airtanker fleet, please refer to Interagency Standards for Fire and Aviation Operations, Chapter 16, Aviation Operations and Resources located at https://www.nifc.gov/policies/pol_ref_redbook.html and the Standards for Airtanker Operations located at:


Airtanker Response Area

Each unit may order the first airtanker through standard dispatch channels from the dispatch unit for the closest airtanker base. This includes out-of-area bases covered by formal agreement. If the closest airtanker base cannot fill the request (airtanker currently committed or on day off), then the unit must place the request with the EACC. If an EA airtanker is requested out-of-area for initial attack, the airtanker host unit must first call the EACC for coordinator approval to fill request.

When airtankers are ordered the following priority criteria must be provided in the comment section of the aircraft kneeboard and in the special needs block of the IROC aircraft resource order.

- **Values at Risk**
  - **Human Life:** Entrapment, reinforcement of escape routes/safety zones, Other (Medivac, Highways, Recreation Areas, etc...).
  - **Communities:** Community infrastructure, historically significant cultural resources.
- **Property:** Primary residences, seasonal residences, commercial property including timber/plantations, outbuildings, livestock, other.

- **Natural Resources:** Threatened and Endangered Species, wildlife habitats, grazing allotments, designated critical areas.

**Timeframe to Threat**

- **Imminent,** within one (1) operational period, twenty-four (24) hours, etc...

An airtanker may be ordered using the “Minimum Information Needed” as outlined in the Aircraft Mobilization section of this chapter. Centers may be asked if there are currently resources on the ground to support orders for retardant or bucket drops.

At the end of the shift all initial attack aircraft will be released in IROC to the appropriate base or a preposition order for a clean start on the next shift.

**Airtanker Use in Optional and Post Season Periods**

Refer to National Mobilization Guide, Chapter 50

**PORTABLE/MOBILE RETARDANT MIXING BASES**

Agency owned portable retardant plant locations:

- Eastern Area: Minnesota State (2)
- Southern Area: Southern Interagency Fire Cache (3)

Mobile Retardant Bases can be ordered to service Very Large Airtankers, Large Airtankers, Helicopters, and SEATs. Orders should be placed thru normal dispatch channels and placed to the NICC. Units should identify physical location and any limiting factors affecting access to the area of planned use. Use the Special Needs block to identify the type of aircraft utilizing the service: Helicopter (T1, T2, or T3), SEAT, LAT or VLAT. Also determine and note if a bucket or fixed tank will be used.

**AIRTANKER DISPATCH LIMITATIONS STARTUP/CUTOFF TIMES**

To reduce the hazards to large airtanker operations posed by shadows in the early morning and late evening hours, limitations have been placed on times when airtankers drop on fires. Note that the limitations apply to the time the aircraft arrives over the fire and conducts its dropping activity, not the time the aircraft is dispatched from its base. The air tactical group supervisor or ASM/Lead Plane will determine that visibility and other safety factors are suitable for dropping retardant and notify the appropriate dispatcher of this determination.

Dispatchers and airtanker base managers, in consultation with airtanker coordinators or air tactical group supervisors, are mutually responsible for ensuring these limitations are not exceeded.

The following will apply:

- **Aerial Supervision Optional:**
  - Airtankers may be dispatched to arrive over the fire under normal agency aerial supervision policy, provided that the aircraft’s arrival is between 30 minutes after official sunrise and 30 minutes before official sunset.

- **Air Tactical Group Supervisor or ASM/Lead Plane Required:**
A qualified air tactical group supervisor or ASM/Lead Plane is required on scene if the airtanker arrival over the fire and its dropping activity will occur during:

- The period from 30 minutes prior to official sunrise to 30 minutes after official sunrise
- The period from 30 minutes prior to official sunset to 30 minutes after official sunset

Determinations of Time for Airtanker Dispatch:

- For airtanker dispatch, use the official sunrise, start-up, cut-off, and sunset times of the airtanker base nearest the fire and comply with the start-up/cut-off times.

The priorities for Airtanker and Lead Plane/ASM use are: (1) life and property, (2) initial attack, and (3) other priorities established by management. To assure these priorities are met, the EACC will manage and coordinate all Airtankers and Lead Planes/ASMs operating within the Eastern Area. Situations may develop necessitating reassignments of Airtankers and Lead Plane/ASMs en route to an incident or diverting them from fires they are working on.

**AIR TANKER BASE OPENING/CLOSURE**

Any time an Air Tanker base is open, either a permanent or temporary base, the local dispatch center aircraft desk will notify the EACC Aircraft desk when the opening takes place. This information will then be added to the daily EA Aircraft Status Report which can be found on the EACC web site.

**SUNRISE/SUNSET TABLES**

Airtanker bases and dispatch centers shall have tables showing the official sunrise, cut-off, and sunset times at their location. [https://aa.usno.navy.mil/data/index.php](https://aa.usno.navy.mil/data/index.php)

**MODULAR AIRBORNE FIREFIGHTING SYSTEMS (MAFFS)**

Refer to National Mobilization Guide, Chapter 50

**WATER SCOOPERS**

Water scoopers are National Resources and their primary mission is initial attack operations. The NICC will prioritize and allocate federal water scoopers by positioning them in areas where they can be tactically effective and where current or predicted high wildfire danger or activity is occurring. Geographic areas managing these aircraft will make them available for wildland fire assignments when ordered by NICC.

Water Scoopers will be ordered as a Airtanker, Type 3 (Multi Engine) with Scooper capability feature in IROC. The capability should also be defined in the “Special Needs” block of the Resource Order as scooper capability.

**SINGLE ENGINE AIRTANKERS (SEATs & Fire Bosses)**

Federal and/or State contracted SEATs are managed under either an Exclusive Use, On-Call, or CWN contract. A list of DOI Nationally funded SEATs is maintained and information can be requested through the National SEAT Coordinator. The national contract SEAT module includes the option for a support vehicle with batch mixing capability for wet and dry retardant. They are available for Interagency use and will be requested through established ordering channels. A SEAT can be managed by a SEMG or an ATBM. If the request is filled with a DOI On-Call SEAT, a SEMG or ATBM must be identified with contact information and documented in the Special Needs block before NICC assigns a SEAT.

Orders for SEATs placed to NICC are coordinated with the National SEAT Coordinator. Local Units or Geographic Area Coordination Centers hiring or releasing SEATs will notify the National SEAT Coordinator.
regardless of jurisdiction. Consistent with the DOI authorization (see the BLM National Aviation Plan), DOI
Nationally funded SEATs will be managed as DOI National shared resources. As National assets, these
SEATs can and will be moved to areas of greatest need. Geographic Areas and Fire Staff on an Interagency
basis will provide direction to the Dispatch system on the mobilization and demobilization of SEATs to
meet existing or forecasted fire loads within their jurisdiction. Nationally, when competition for SEATs
exists, NMAC will provide SEAT allocation direction to NICC based on intelligence developed by the
National Seat Coordinator. The National SEAT Coordinator position is responsible for coordinating the
allocation and reallocation of SEATs Nationwide as well as maintaining current status, location and
utilization of Federal and State contracted SEATs throughout the Nation. DOI Nationally funded SEATs will
have their IROC status set as available nationally. When assigned to an incident, DOI Nationally funded
SEATs will be released back to the GACC/Hosting unit at the end of each shift and shown as available
“National” in IROC. Mobilization for incident response will occur via resource order; however, once a
decision to reallocate a DOI Nationally funded SEAT to another GACC is made, the receiving GACC will place
a request for the mobilization, and the resource item will be transferred after mobilization is complete.

For additional information and SEAT reporting requirements, see the NWCG Standards for Airtanker Base

and The Interagency Standards for Fire and Fire Aviation Operations Chapter 16,
https://www.nifc.gov/policies/pol_ref_redbook.html

The National SEAT Coordinator can be reached at 208-387-5419, or via email at blm_fc_seat@blm.gov.

**Aerial Supervision Aircraft**

Leadplanes, Exclusive Use Air Tactical Aircraft, and ASMs are National Resources. Areas
administering these aircraft will make them available for wildland fire assignments when requested
by NICC and approved by the parent agency. Requests for Leadplanes may be filled with an ASM.

The ASM is a fixed wing platform that utilizes two (2) crew members to perform the functions of
traditional air attack and low-level lead operations. The ASM requires both crew members to be trained
to work as a team, utilizing Crew Resource Management (CRM) skills and techniques to enhance safety,
efficiency, and effectiveness.

A Leadplane is a fixed-wing platform that provides low-level lead operations for airtankers. Leadplanes
are required for non-IA rated airtankers, such as VLATs and MAFFS. Leadplanes may also be requested
for congested airspace situations, by any airtanker pilot, or to determine adequate visibility for airtanker
operations on an incident. Leadplanes are limited and specialized resources, therefore missions may
need to be prioritized for non-IA rated airtanker missions. Please contact the USFS National Fixed-Wing
Coordinator, or appropriate agency program manager for any leadplane needs or for planning purposes.

For a list of all Lead Planes/Aerial Supervision Modules, refer to the following web site:

Air Tactical aircraft are on agency Exclusive Use Contracts and/or Call When Needed (CWN)
contracts or Agreements. They are available for interagency use and will be requested through
established ordering channels. Federal agencies have developed Air Tactical specific contracts and
agreements that add performance capabilities and radio configurations specific to the role of aerial
supervision.
To ensure consistent utilization, rotation and management of the exclusive use ATGS fleet, please refer to Interagency Standards for Fire and Aviation Operations Chapter 16, Aviation Operations and Resources located at [https://www.nifc.gov/policies/pol_ref_redbook.html](https://www.nifc.gov/policies/pol_ref_redbook.html).

<table>
<thead>
<tr>
<th>Required Equipment</th>
<th>Type 1</th>
<th>Type 2</th>
<th>Type 3</th>
<th>Type 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aeronautical VHF-AM radio transceivers</td>
<td>2 each</td>
<td>2 each</td>
<td>2 each</td>
<td>2 each</td>
</tr>
<tr>
<td>Aeronautical VHF-FM radio transceivers</td>
<td>2 each</td>
<td>1 each</td>
<td>1 each</td>
<td>N/A</td>
</tr>
<tr>
<td>Transponder &amp; altitude encoder</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Panel Mounted or Aviation Handheld GPS</td>
<td>1 each</td>
<td>1 each</td>
<td>1 each</td>
<td>1 each</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Required Equipment</th>
<th>Type 1</th>
<th>Type 2</th>
<th>Type 3</th>
<th>Type 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Separate audio control systems for pilot and ATGS</td>
<td>Yes</td>
<td>Yes</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>An audio control system</td>
<td>N/A</td>
<td>N/A</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Audio/mic jacks with PTT capability in the rearseat connected to the co-pilot/ATGSs audio control system</td>
<td>Yes</td>
<td>Yes</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>An intercommunication System</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>AUX-FM provisions</td>
<td>Note 1</td>
<td>Note 1</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>AFF</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2 – aeronautical VHF-FM antennas</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Yes</td>
</tr>
<tr>
<td>An accessory power source</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Yes</td>
</tr>
<tr>
<td>A portable Air Attack kit (Note 2)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Yes</td>
</tr>
<tr>
<td>TAS (DOI)</td>
<td>Yes</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Note 1: Type 1 and 2 aircraft must have either AUX-FM provisions or an additional aeronautical VHF-FM radio transceiver.

Note 2: Air Attack kits may be agency or contractor furnished.

### Eastern Area Aerial Supervision Requirements and Guidelines

<table>
<thead>
<tr>
<th>SITUATION</th>
<th>LEAD PLANE/ASM1 REQUIREMENT/GUIDELINE</th>
<th>AIR ATTACK REQUIREMENT/GUIDELINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-initial attack rated airtanker pilots</td>
<td>Required (must not drop unless lead plane is on scene)</td>
<td>None</td>
</tr>
<tr>
<td>Dropping of retardant in congested areas</td>
<td>Required</td>
<td>Must be ordered</td>
</tr>
<tr>
<td>Multiple aircraft operating in a congested area, 2 or more</td>
<td>None, unless airtanker operations</td>
<td>Must be ordered</td>
</tr>
<tr>
<td>Retardant operations conducted during the period ½ hour before sunrise to ½ hour after sunrise, and ½ hour before sunset to ½ hour after sunset</td>
<td>Airtankers must not be dispatched unless lead plane/ASM1 or air attack can be on scene during drop operations</td>
<td></td>
</tr>
<tr>
<td>Aircraft</td>
<td>Required (must not drop unless lead plane/ASM1 is on scene)</td>
<td>Must be ordered</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>------------------------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Modular Airborne Firefighting System (MAFFS)</td>
<td>Required (must not drop unless lead plane/ASM1 is on scene)</td>
<td>Must be ordered</td>
</tr>
<tr>
<td>Canadian CL-215/415</td>
<td>Must not drop unless lead plane/ASM or air attack is on scene</td>
<td></td>
</tr>
<tr>
<td>Multiple airtanker operations</td>
<td>Automatically request the lead plane/ASM1; if not readily available, keep order active if extended attack is anticipated and lead plane/ASM1 can arrive in time to supervise operations</td>
<td>Optional, unless other criteria are met (i.e., mix of different tactical aircraft types and incident complexity dictates need)</td>
</tr>
<tr>
<td>Single airtanker operations where a lead plane/ASM1 is co-located with the airtanker</td>
<td>Automatically request the lead plane</td>
<td>Optional, unless other criteria met</td>
</tr>
<tr>
<td>Mix of different tactical aircraft types (e.g., airtanker, helicopter, smoke jumper) and the incident complexity dictates the need for air tactical coordination</td>
<td>Optional, unless airtanker operations dictate need</td>
<td>Must be ordered</td>
</tr>
<tr>
<td>Numerous resources of a single type</td>
<td>See Multiple Airtanker Operations</td>
<td>Optional, depending upon situation and complexity</td>
</tr>
<tr>
<td>Conditions of visibility and/or terrain create a serious hazard to ground or air resources</td>
<td>Mandatory</td>
<td>Must be ordered</td>
</tr>
<tr>
<td>National Exclusive Use, Forest Service contract, CL-415</td>
<td>Initial attack carded, none required</td>
<td></td>
</tr>
</tbody>
</table>
HELICOPTERS:

CALL-WHEN-NEEDED (CWN)

- Type 3 helicopters are ordered through normal ordering channels and are dispatched either locally, or through Geographic Area Coordination Centers.
- All Type 1 and 2 helicopters are National Resources and will be dispatched by NICC.
- There are two categories of helicopters:
  - Limited: No government personnel/passenger or internal cargo transport, lift only. See National Standards for Helicopter Operations, PMS 510 for additional information.
  - Standard: Government personnel/passenger and cargo hauling.
- When processing requests for helicopters, NICC will inform the requesting GACC of the contract type of the assigned resource: Exclusive Use or CWN. Exclusive Use Contract helicopters are mobilized complete with an assigned module. If the request is filled with a CWN helicopter, the requesting Area must provide a module, in alignment with the NWCG Standard for Helicopter Operations, Exhibit 2.1. https://www.nwcg.gov/publications/510.
- A helicopter manager (HMGB) must be identified with contact information and documented in the Special Needs block before NICC assigns a CWN helicopter, with the exception of Alaska, due to the extended mobilization time of the aircraft from the Lower 48 to Alaska. It is preferred that CWN helicopter managers and/or modules will meet with their assigned helicopter off-site from the incident prior to performing work. The specific reporting location should be identified on the Resource Order, such as a Fixed Base Operator (FBO) or other easily located site. GACCs will obtain approval from NICC prior to reassigning Type 1 or 2 Helicopters to another incident.

HELICOPTERS MODULES (NSHO Chapter 2, PMS-510)

<table>
<thead>
<tr>
<th>Helicopter Type</th>
<th>FAA Standard/Transport Category</th>
<th>FAA Standard Category Temporarily Designated for Limited Use</th>
<th>FAA Standard Category Permanently Designated for Limited Use or FAA Restricted Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Manager plus Four (4) Helicopter Crewmembers</td>
<td>Manager only</td>
<td>Manager only</td>
</tr>
<tr>
<td>2</td>
<td>Manager plus Three (3) Helicopter Crewmembers</td>
<td>Manager only</td>
<td>Manager only</td>
</tr>
<tr>
<td>3</td>
<td>Manager plus Two (2) Helicopter Crewmembers</td>
<td>Manager only</td>
<td>Manager only</td>
</tr>
</tbody>
</table>

CWN Helicopter and Module must meet up away from Incident(s) or Fire Operations. The minimum required staffing levels must be filled with fully qualified personnel. Trainees may be ordered in addition to the standard module configuration.

Exclusive Use

- All FS Exclusive Use Type 1 and 2 Helicopters are contracted by the Forest Service Procurement and Property Services Incident Procurement Operations (IPO ISB) located in Boise at the NIFC.
- All Exclusive Use Contract Helicopters for DOI Agencies are solicited, inspected, and contracted by DOI AQD and OAS.
- Exclusive Use Contract Helicopters are dispatched locally by the Administrative Unit. When requested by
NICC, National Resources will be dispatched by the dispatch center hosting the resource at the time of request.

- When ordering helicopters specifically for their rappel capability, these resources will be ordered as IA Load, Rappellers, in IROC.
- Helicopters ordered specifically for short haul capability, will be ordered as either Type 2 Standard, Helicopter, or Type 3 Standard, Helicopter, with the Short-Haul capability feature in IROC. The capability should also be defined in the “Special Needs” block of the Resource Order as short haul capability.
- Periodically, Forest Service Type 1 and Type 2 Exclusive Use Helicopters not within their Mandatory Availability Period (MAP) are hired under their Exclusive Use Contract for optional use periods for incidents or projects. A modification to the Exclusive Use Contract is required for the duration of the incident assignment. The Exclusive Use Contract designates the COR.
- If a Forest Service Exclusive Use Helicopter Manager is not immediately available, the request Geographic Area will assign a Helicopter Manager. The designated Helicopter Manager will then manage the helicopter thereafter. The COR will be notified that the Exclusive Use Helicopter is being dispatched.

**Forest Service Type 1 and Type 2 Helicopters**

All Forest Service CWN and EU T1/T2 Helicopters & modules (helitack/rappellers), are National Resources, prepositioned and allocated by the NICC/National Aircraft Coordinator, in alignment with the NMAC and Agency prioritization and direction.

Forest Service EU helicopter utilization is closely monitored. In some cases, underutilized resources will be reallocated nationally, to higher priority incidents or geographic areas. When request by the NICC GACCs will make these aircraft available to the NICC.

As such, if a GACC has a need to backfill behind a Forest Service EU helicopter, that GACC will show the need by placing a request to the NICC. In no situation, will a GACC remove a Forest Service EU helicopter from another geographic area, without coordination with the NICC and/or the National Aircraft Coordinator. The standard 14-day assignment applies to the crew and not the helicopter platform. Module leaders are expected to rotate their crew in order to maintain helicopter availability. Exenuating circumstances will be honored and coordinated with the Forest Service National Aircraft Coordinator. For additional direction please reference the NWCG Standard for Helicopter Operations and the FSM 5700.

**BLM Type 1 Helicopter**

The BLM Type 1 Helicopter’s primary mission is initial attack. While most effective at providing rapid initial response, the crew is well equipped to respond to extended attack incidents and critical need missions on large fires. In order to retain this helicopter and crew beyond initial attack for extended attack incidents, a request will be made to the GACC. Extended attack incidents that utilize the crew to fill critical positions, should immediately order replacement personnel for those positions in case the aircraft and crew are reassigned.

**R9 EXCLUSIVE USE CONTRACT HELICOPTERS**

Prioritization for FS Eastern Region exclusive use helicopters will be accomplished by the EACC through the Region 9 Fire Operations, Regional Aviation Officer, and the EACC Center Manager.

**Type 3 Exclusive use Helicopters**

- The Forest Service (FS) Eastern Region has established a Type 3 Exclusive Use Helicopter Program for the 2022 operating period. The program provides regional guidelines for this shared resource between all Eastern Region National Forests. The Exclusive Use Type 3 helicopters are contracted
for initial attack, support of wildland fire suppression, and prescribed fire activities. The helicopters are hosted by the National Forests listed below. These units provide administrative management support for the four helicopter contracts.

- Mark Twain National Forest – N20BH
  - Availability period: Feb. 7th to May 31st.
  - Helibase Location: Rolla National Airport, Vichy, MO (VIH)

- Mark Twain National Forest – N126BH
  - Availability period: Mar. 1st - May 31st
  - Helibase Location: Rolla National Airport, Vichy, MO (VIH)
  - Utilized as an Rx burn ship for the region

- Shawnee National Forest and Huron-Manistee National Forest – N407MC
  - Availability period: Feb. 27th to Mar. 31st (SNF), and Apr. 1st to 30th (HMF)
  - Helibase Location: (SNF) Williamson County Regional Airport, Marion, IL (MWA)
  - Helibase Location: (HMF) Wexford County Airport, Cadillac, MI (CAD)

- Chippewa National Forest and Superior National Forest – N18BH
  - Availability period: Mar. 1st - Jul. 30th.
  - Helibase Location: Ely Municipal Airport, (ELO)

Other potential fixed wing or Helibases:
- Greenbrier Valley Airport, Lewisburg, WV (LWB)
- Alpena County Regional Airport, Alpena, MI (APN)
- Gaylord Regional Airport Gaylord, MI (GLR)
- Oscoda-Wurtsmith Airport Oscoda, MI (OSC)
- Rhinelander Airport, Oneida County, Rhinelander, WI (RHI)
- Tell City Airport, Perry County, Tell City, IN (TEL)

**LARGE TRANSPORT AIRCRAFT**

Large transport aircraft are National Resources and will be requested through NICC.

- Scheduling: Large transport aircraft arranged by NICC are requests on a per mission basis. Flight Following ATD/ETE will be relayed by the NICC Aircraft Desk for flight leg.
- Requests for Large Transport: When requesting a large transport aircraft, the following information is required:
  - Number of passengers and/or cargo weight per destination and combined total weight for the flight.
  - Pick-up point at jetport and time passengers and/or cargo are available to load. NICC requires 48 hours lead time to plan and schedule aircraft for demobilization flights.
  - Pick-up point at the jetport is the Fixed Base Operator (FBO) or gate at the airport terminal where the aircraft will park.
  - Passengers must be weighed and manifested prior to boarding the aircraft.
  - Government or contractor support available at each airport, including contact person and telephone number.

All personnel listed on the manifest and flight crew members should be provided at least one sack lunch.
INFRARED (IR) SUPPORT TO FIRE OPERATIONS

Aircraft systems configured with infrared (IR) camera systems are available from agencies and private sector to provide support to wildland fire operations in three mission areas:

Detection: Use IR imagery to detect and map locations of new fires, typically following a lightning storm.

Large Fire Perimeter Mapping: Use IR imagery to map the heat perimeter of large fires, typically the role of National Infrared Operations (NIROPS).

Tactical Incident Awareness and Assessment (IAA): Use IR imagery to provide near real-time situational awareness, spot fire detection, over watch of ground operations, and map the heat perimeter of smaller fires or active portions of large fires. Can be conducted during the day or night.

Infrared camera systems can be categorized into two primary categories: 1) Line Scanner / Step-stare camera systems, or 2) gimbal mounted electro-optical / infrared (EO/IR) camera ball. Line scanners and step-stare systems can quickly scan and map large fires and are best used when the fire is actively burning with open flame. EO/IR camera balls are best used to provide over watch of a specific area and are more sensitive to detecting smoldering heat sources, however scan volume to map large fires is typically lower than line scanners or step-stare systems.

Aircraft assigned to NIROPS are predominantly equipped with line scanners or step-stare camera systems. NIROPS will consists of agency as well as contracted aircraft. NIROPS aircraft are National Resources. To order, use the IR Online Scanner Request Form on the NIROPS website no later than 1530 hours Mountain Time https://fsapps.nwcg.gov/nirops/users/login.

Aircraft equipped with gimbal mounted EO/IR camera balls are typically better suited to detection or tactical IAA missions. Aircraft from federal, state, National Guard, and contractors are available. Ordering procedures varies depending on the aircraft. To order, contact the ordering GACC to discuss options.

The following are some guidelines to help select the right tool for the task:

Identify what the IR imagery is needed for, what information it is intended to provide, the desired products, and time of day.

If the fire is actively burning and a once per 24-hour perimeter map is sufficient, submit request for NIROPS.

If the fire is experiencing significant spread and additional day-time mapping and/or over watch is needed to monitor fire progression, consider requesting an aircraft equipped with thermal sensors for day-time flights in addition to nightly NIROPS.

If the fire is no longer actively spreading and IR imagery is needed to inform mop-up decisions, consider requesting an aircraft equipped with a gimbal mounted camera ball instead of NIROPS.

Following a lightning storm consider requesting an aircraft equipped with gimbal mounted camera ball to conduct a detection flight over the lightning affected area.

Most crewed aircraft systems are only capable of providing “periodic” over watch of an incident, limited by fuel cycle. For more “persistent” coverage of an incident, consider requesting a large UAS capable of providing 12-18 hours of flight time per day.
Visit the Fire Imaging Technologies User Guide for more detailed information:


UNMANNED AIRCRAFT SYSTEMS (UAS)

UAS or “drones” may be used by federal agencies on incidents and projects in accordance with agency policy, and only with prior planning, consultation, and approval by the respective regional and national level agency Aviation Managers.

Unmanned Aircraft Systems are considered aircraft and therefore must adhere to USFS/DOI policy (including approval and carding of aircraft and pilots). UAS include everything from hand operated devices weighing less than a pound to aircraft the size of commercial airliners. UAS include any aircraft used, or intended to be used, for flight in the air with no onboard pilot.

When UAS are flown for USFS/DOI work or benefit, FAA, USFS, and DOI regulations apply. Units wishing to utilize UAS must have a plan in place for how they are going to collect, process, and disseminate data gathered by a UAS. Consult with your Unit Aviation Officer or the Regional/State aviation staff to assist in selecting and ordering the aircraft best suited for the mission.

The following minimum standards apply:

- All aircraft (to include UAS) purchase, lease, or acquisition must follow agency procurement policy and procedures.
- DOI and USFS UAS policy and operational Guidelines for use of UAS is dynamic and there are differences in agency policies.
- In support of fire management goals and objectives, the **NWCG Standards for Fire Unmanned Aircraft Systems Operations (PMS 515)** ([https://www.nwcg.gov/sites/default/files/publications/pms515.pdf](https://www.nwcg.gov/sites/default/files/publications/pms515.pdf)) must be adhered to for both USFS/DOI.

**UAS Operations Standards**

**USFS**

UAS flights under USFS operational control must adhere to USFS policy and regulations regarding their use. Guidance can be found in FSM 5713.7, the USFS National Aviation Safety and Management Plan and the **Forest Service Standards for Unmanned Aircraft System Operations Guide**

**DOI**

UAS flights under DOI operational control must adhere to DOI policy and regulations regarding their use. Guidance can be found in 350-353 Departmental Manuals and Operational Procedures Memoranda 11: [https://www.doi.gov/aviation/library/opm](https://www.doi.gov/aviation/library/opm)

If you have a non-emergency UAS request in the Eastern Geographic Area, please contact the Geographic Area Aircraft Coordinator at the EACC.

Planning for RX should be coordinated at least two weeks out.

**Best Practices for Ordering for Emergency Incidents**

Please contact the Geographic Area Aircraft Coordinator at EACC for assistance in ordering UAS. If the Geographic Area Aircraft Coordinator or Duty Officer needs assistance to help determine the type of UAS (1-4) and UAS positions (UASP, UASD, UASM, or UASL) to order, if needed, they will relay to the on-call Regional UAS Specialist.
Notes:

- When ordering UASPs, best practice is to order two. One qualified and one trainee optional. A UASP(T) can still operate the aircraft and perform missions. Two pilots are far more efficient in operations than one.
- UAS personnel are in high demand and training is critical to Regional and National needs. Please order trainees when approved/possible.
- Cooperators wishing to fly UAS on federally managed incidents must have a Cooperator letter issued by DOI or USFS.
- For RX Fire UAS Operations (including Aerial Ignition) please call the UAS Coordinator as outlined above.

The National UAS Coordinator can be reached @ 208-387-5335. The purpose of this position is to provide information to decision makers/ordering units. Prioritization of UAS resources is beyond the scope of this position and should be performed in accordance with established local/GACC/national procedures.

There are three federal UAS ordering scenarios:
1. Agency UAS for situational awareness/IR/mapping
2. Agency UAS for aerial ignition
3. CWN contract UAS for large fire

Agency UAS for Situational Awareness/IR/Small Area Mapping (UAS Type 3 or 4)

- Order UASP. (Two with one trainee optional is ideal)
- Order a UASD if a geospatial product such as fire perimeter/area or orthomosaic is desired.
- In the Special Needs section, state agency **Type 3 or 4** with desired capabilities.
- There is no need to order the UAS (aircraft order). UASPs are equipped with agency UAS.

Agency UAS for Aerial Ignition (UAS Type 3)

- Order an **Unmanned Aircraft - Rotorwing - Type 3**
- In the Special Needs section, note: DJI M600 with Ignis 2.0 PSD Machine and XT2 Zenmuse IR/EO Camera Sensor
- Other small UAS, sensors, support equipment (trailer), cell phone, tablets, televisions, laptops authorized
- Large SUV, off road capable rental vehicle or NERV large SUV, off road capable vehicle authorized.
- Trainees authorized
- Aerial Ignition Type 3 is capable of Situational Awareness/IR/Small Area Mapping missions.
- Order will be filled with 2 UAS Aerial Ignition Remote Pilots.

Call When Need Contract UAS (Type 1 or 2)

- CWN UAS are a national resource and must be ordered through the NICC Aircraft Desk.
- Order either Unmanned Aircraft, Fixed Wing Type 1 or Fixed Wing Type 2.
- UAS Overhead (UAS Manager and UAS Data Specialist) are ordered as supports to the A number.

Please see: [https://uas.nifc.gov/](https://uas.nifc.gov/) for further information.

**AERIAL IGNITION**

There are two aerial ignition devices approved for Forest Service and DOI use: the heli-torch and the plastic sphere dispenser (PSD). There are specific training and certification requirements for aircraft, pilots, heli-torch modules, and PSD operators. Only qualified individuals will be assigned when filling aerial ignition orders for heli-torch modules or plastic sphere dispenser operators (PLDO).
Orders for these resources, for fire or project use, may involve several different resource orders. Example: Helicopter ordered on an aircraft resource order, helicopter manager and heli-torch module or PSD operator ordered on overhead resource orders, heli-torch or PSD machine ordered on an equipment resource order, and plastic spheres, glycol, gasoline, etc. ordered on supply resource orders.

When possible, to alleviate workload, resource tracking problems and confusion, order an exclusive use helicopter and crew, who have all the components in one package (aerial ignition equipment, supplies, and qualified personnel). This can be accomplished on one aircraft resource order that specifies the module and aerial ignition capability needed.

**TEMPORARY FLIGHT RESTRICTIONS, FAR 91.137 (TFR)**

Temporary airspace restrictions will be established when incident related aviation activities present potential conflict with other aviation activities.

EA dispatch centers will:

- **Request a TFR**
  1. Create a request for the TFR in IROC under Aircraft – Service, as well as complete the Interagency Request for Temporary Flight Restrictions form
  2. Place the IROC request to EACC, along with a copy of the completed TFR request form as an attachment to the IROC order or as an email sent to WIEACC@FIRENET.GOV

- **Cancel a TFR**
  1. Cancel via phone call through the EACC as soon as it is no longer required.

Typical TFRs are requested in a seven (7) nautical mile radius of a given point and 4500 feet above the highest point (MSL). However, TFRs may be requested in any configuration desired depending on the situation, topography, amount of air traffic, etc.

The FAA requires that latitude/longitude information for TFRs (Temporary Flight Restrictions) must be provided in degrees, minutes, and seconds, including reference to north latitude and west longitude. If seconds’ information is not available, add two (2) zeroes to the description. Do not use spaces, commas, or other symbols in the description. Example: ddmssN/ddmssW or 450700N/117500W.

If requesting a Polygon TFR the corner points should be listed in a clockwise sequence around the requested TFR beginning with the Northwest corner to avoid “bow tie” depictions. The NWCG Standards for Airspace Coordination, located at [https://www.nwcg.gov/publications/520](https://www.nwcg.gov/publications/520) further describes how flight restrictions are requested and implemented.

The EACC Aircraft Coordinator will:
  1. Enter the TFR request into the FAA NOTAM (Notices to Air Missions) Entry System (NES),
  2. Follow up with a phone call to the appropriate Air Route Traffic Control Center (ARTCC),
  3. Fill the IROC Aircraft – Service order with the issued NOTAM number and notify the requesting EA dispatch center by phone.

TFRs in the USA may be found at [http://tfr.faa.gov/tfr2/list.html](http://tfr.faa.gov/tfr2/list.html). TFRs are not considered to be in effect until the FAA has issued a Notices to Air Missions (NOTAM) regarding the specific TFR.
Ordering considerations for TFRs

- Order a dedicated Air-to-Air AM frequency before placing an order for a TFR whenever possible.
- If using a local IA Frequency for the initial TFR and the incident will continue past one operational period, replace it by ordering a discrete Air-to-Air AM Frequency for the incident as soon as possible.
- A new A# is required for every TFR update, including frequency changes.
- TFRs involving Military Training Routes and Special Use Airspace require additional notification of that closure to the scheduling military base. Further direction may be obtained in the NWCG Standards for Airspace Coordination.

Reference 91.137: Placing a TFR over an incident area does not automatically eliminate non-tactical aircraft for the area. Note the exceptions for law enforcement and news media in the FAR. It is highly recommended that an Airspace Coordinator (ASCO) be ordered in those cases where airspace is complex or numerous aircraft are deployed.

NOTICES TO AIR MISSIONS DISTANT (NOTAM (D))

In some cases, a NOTAM (D) may be appropriate to notify non-participating general aviation, commercial, or military aircraft of an agency aviation project or activity such as aerial ignition on a prescribed fire, blasting, for helibases located outside a TFR, or for operations at an agency owned airstrip that do not require closure.

When applicable a NOTAM (D) will be requested by the local dispatch center. Once issued, notify the Aviation desk at the EACC that a NOTAM (D) has been issued.

To have a Notices to Air Missions (NOTAM) issued by the NOTAM Flight Service Station call (1-877-487-6867), when you call it will prompt you by asking the state in which the project/controlled burn is located. Have the following information ready when the individual comes on the line.

- Why are you requesting a NOTAM D? (Controlled burn, other projects involving aviation assets)
- Notification 1 - 2 hours in advance, can be requested earlier
- Lat/long of the project or Controlled burn (FAA verbiage)
- Distance from the closest VOR in degrees and miles
- Location of closest airport and radial direction from the airport. (eg: 5 miles south east from the airport)
- Surface to what altitude for smoke dispersion.
- Aerial ignition utilized? What altitude will helicopter operations take place?
- Will there be any Detection Aircraft or other aviation assets as part of the operation? (Giving updates to the burn boss)

NOTAM (D)s in the USA may be found at: https://pilotweb.nas.faa.gov/PilotWeb/.

AIRSPACE CONFLICTS

Consult the NWCG Standards for Airspace Coordination at https://www.nwcg.gov/publications/520


Aviation personnel have a responsibility to identify and notify the FAA and report conflicts and incidents through the Interagency SAFECOM (Safety Communication) System to assist in the resolution of airspace conflicts. Notification to the FAA should be timely. When a conflict or incident occurs, it may indicate a
significant aviation safety hazard. Conflicts may include Near Mid Air Collisions (NMAC), TFR intrusions, and FTA communication non-compliance. Further guidance is available in the NWCG Standards for Airspace Coordination.

**FAA TEMPORARY CONTROL TOWER OPERATIONS**

Refer to National Mobilization Guide, Chapter 50

**DEDICATED RADIO FREQUENCIES**

All documents containing USDA Forest Service (FS) and/or Department of Interior (DOI) frequencies must have the following statement on the top and bottom of each page containing frequencies, “Controlled Unclassified Information//Basic”. This requirement is in accordance with direction from the Washington Office Frequency Managers for both Departments.

**FM, VHF, and UHF Frequencies:**

NIICD issues dedicated FM frequencies in conjunction with communication equipment assigned to incidents. NIICD will order additional FM frequencies from DOI and FS, Washington Office, as conditions warrant. To ensure proper frequency coordination, the ordering office must include the Latitude and Longitude of the incident on the resource order.

**AM Frequencies:**

Initial attack AM air-to-air frequencies will be assigned by the NIICD Communications Duty Officer (CDO) after annual coordination with the FAA. All available AM assignments will be published at the beginning of the fire season and will be available for use by the dispatch zones. When the tertiary assignment (if applicable) is used the NIICD CDO will be notified by phone or e-mail. VHF AM assignments are used for air-to-air communications and are authorized only within the zone to which assigned. IA assignments are not dedicated to project fires.

To utilize the initial attack AM assignments to their fullest capabilities they should only be used on TFRs for the initial burning period, and after that a dedicated AM frequency should be ordered from the CDO through IROC.

**FM air-to-ground frequencies:**

FM air-to-ground frequencies will be facilitated and coordinated by the NIICD CDO in cooperation with the agency frequency managers with the intent to create permanent assignments. Both AM and FM assignments will be used on an interagency basis and master records of the assignments are maintained by the NIICD CDO. Updated frequency information for initial attack air to air, and air to ground is coordinated annually with the GACCs.

Requests for the use of dedicated Air-to-Air and Air-to-Ground frequencies will be made through established ordering channels from the incident host GACC, directly to the NIICD, followed by a call placed to the CDO. The CDO coordinates all National Cache FS and DOI frequencies as well as any additional frequencies released by other agencies for wildland fire support. Frequencies are ordered on an Aircraft “A” request.

**Procedures to obtain additional frequencies:**

- Dispatchers shall request additional frequencies through normal ordering channels to EACC, using an “A” number in IROC for each separate frequency requested. The following information must be included:
Aircraft  Chapter 50

- Number of frequencies required.
- Use of the frequencies (AM for air-to-air or FM for air-to-ground).
- Latitude and longitude of incident or air operations center point.
- Whether the aircraft are equipped to operate on narrow band or wide band.
  - NIRSC will assign, as required, FAA frequencies. This process may take from a couple of hours or longer depending on what else is going on throughout the country.
  - When no longer needed, units shall release frequencies back to NIRSC.

**AIRCRAFT ACCIDENT/INCIDENT/HAZARD/MAINTENANCE DEFICIENCY REPORTING**

Any deviation from standard aviation policy or procedures, either on the ground or in the air, shall be reported. Regardless of individual agency reporting time frames, all accidents, incidents with potential to have caused an accident, as well as all airspace conflicts, shall be reported immediately.

The unit with operational control of the aircraft at the time of the occurrence is responsible for ensuring submission of the SAFECOM by the observing or involved individual(s) (i.e., fixed wing manager). The SAFECOM will be submitted through the operational control agency’s reporting system: https://www.safecom.gov/.

For aircraft en route to an incident which experiences an accident or incident/hazard/maintenance deficiency prior to arrival, the scheduling/sending dispatch office shall be the unit with reporting responsibility.

Aside from accident situations where reporting to another agency is required, an agency submitting a report which involves another agency’s aircraft shall forward a courtesy copy to the appropriate aviation officer of that agency.

**ADDITIONAL LINKS CAN ALSO BE FOUND ON THE EACC WEBSITE UNDER AVIATION**
