A publication of the   
**National Wildfire  
Coordinating Group**



NWCG Standards for Airtanker Base Operations  
Appendices

a MARCH 2020

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# Appendix A: Airtanker Base Operations Plan (SEAT or Temporary Base)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ATB/SEAT Base name:** | |  | | |
| **Location:** | |  | | |
| **Agency:** | |  | | |
| **Region/State:**  **RAO/SAM:**  **Contact #:** | |  | | |
| **Forest/Unit:**  **Aviation Officer:**  **Contact #:** | |  | | |
| **Dispatch center:**  **Contact #:** | |  | | |
| General Airport Information | | | | |
| **Airport name:** | **FAA identifier:** | | | **Lat: N** |
| **Long: W** |
| **Elevation:** | **Type of airspace:** | | | **Unicom frequency:** |
| **Runway length:** | **Runway width:** | | |  |
| **Directions to airport:** *Provide driving directions to the airport:* | | | | |
| **Airport Manager:** | | | **Fuel:** [ ] Jet-A [ ] Av-Gas  Amount onsite: Amount onsite: | |
|  | | | **Office phone:** | |
| **Primary person designated as a contact for the Tanker Base operation:**  [ ] Airport Manager [ ] Other: | | | | |
| **Agreements:** *List any agreements or MOUs that are in place for the Tanker Base operations:*  [] No agreements [] Verbal agreement [] Formal written agreement [] Formal written MOU  [] Other: | | | | |
| **Security:** *Describe the type of security the airport has (e.g., locked gates, fences, security cards, etc.):* | | | | |
| **Airport access:** *Describe any concerns or procedures for accessing the airport:* | | | | |
| **Comments:** *Provide a brief narrative about any special concerns for operating at the airport:* | | | | |
| Airport Fueling | | | | |
| **Describe the procedures established for ordering fuel on the base:** | | | | |
| ***General* response time for fuel truck**:  [] < 15 min [] < 30 min [] > 30 min [] Other: | | | | |
| **Does the airport allow hot refueling operations for SEATs?** [] Yes [] No | | | | |
| **Does the airport have a designated area for hot refueling?** [] Yes [] No  **Location of the designated area**: | | | | |
| **Comments on fueling**: | | | | |
| **Describe the jettison area establish for the base**:  Lat: Long: | | | | |
| **Describe notification process after jettison occurs**: | | | | |
| **Descriptive area**: | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| Dispatch Information | | | |
| **Dispatch call sign**: | | **Office phone**:  **Office fax/ email**:  **Aviation Dispatcher**: | |
| **Aviation frequencies monitored by the dispatch office**:  [] National Flight Following [] Air Guard [] Unicom [ ] Ramp  [] Other: | | | |
| **Agency frequencies monitored by the dispatch office**:  [] USFS [] BLM [] BIA [] NPS [] FWS [] State [] Other: | | | |
| **Flight following requirements**:  [] AFF [] Agency flight following with 15 min check-ins [] Combination AFF/agency  [] Other: | | | |
| **Primary flight following frequency**: *Provide the frequency used to flight follow from the base:* | | | |
| **RX:** | **TX:** | | **Tone:** |
| **Name of flight following frequency listed above**:  [] National Flight Follow [] Other: | | | |
| **Initial check-in information**: *(List information required for the pilot to provide the dispatcher on initial contact.)*  [] T-Number [] Amount of fuel [] Mission objective [] General heading [] ETA to incident  [] Other: | | | |
| **15-minute check-in requirements**: *(Describe procedures established for 15-minute check-ins.)*  [] Dispatcher monitors AFF only, no verbal contact with pilot.  [] Dispatch monitors AFF, verbal “ops normal” with pilot.  [] Dispatch requires 15 min verbal check-ins (Current location, bearing, operational status report).  [] Other: | | | |
| **Dispatch closeout requirements**: *(Check all the procedures that apply when landing at the airport.)*  [] Call dispatch when 5 miles out of landing at the airport or when entering sterile cockpit environment.  [] Call dispatch when the pilot is on the ground at the airport.  [] Call dispatch when the pilot is in the pit.  [] Other: | | | |
| **Comments on flight following**: *(Provide a brief narrative about any special concerns for flight following.)* | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Ordering General Supplies and Equipment | | | | |
| **Placing orders:** *(Identify the primary source the ATBM/SEMG should use to order their supplies/equipment from.)*  [] Unit Aviation Manager [] Dispatch Office  [] Other: | | | | |
| **Documenting orders:** *(Describe how the ATBM/SEMG should document their request for supply / equipment orders.)*  [] Use General Message Form [] Verbal Request Only  [] Other: | | | | |
| **Inventory procedures:** *(Describe how the ATBM/SEMG should keep track of their supply and equipment orders.)*  [] Local Inventory Form  [] Other: | | | | |
| Base Facilities | | | | |
| **Base facilities are identified as:** *(Check the one that best describes the base facilities.)*  [] Mobile Retardant Base [] Temporary/portable airtanker base | | | | |
| **Base facilities contain the following:** *(Provide as much detail as possible in the comments.)* | | | | |
| **Item** | **Yes** | | **No** | **Comments** |
| Outside shade |  | |  |  |
| Indoor office space |  | |  |  |
| Electricity |  | |  |  |
| Water |  | |  |  |
| Indoor restrooms |  | |  |  |
| Portable toilets |  | |  |  |
| Kitchen area |  | |  |  |
| Sleeping area |  |  | |  |
| Outside lights |  |  | |  |
| Garbage services |  |  | |  |
| Storage area |  |  | |  |
| **Other amenities:** *(List any amenities like microwave, showers, TV, etc.)* | | | | |
| **Office equipment available at the base:**  [] Copier [] Computer [] Internet Access [] Printer [] Fax Machine [] Telephone (landline)  [] Other: | | | | |
| **Types of radios available at the base:**  [] VHF-AM Base Station [] VHF-AM Vehicle Radio [] VHF-AM Handheld Radio  [] VHF-FM Base Station [] VHF-FM Vehicle Radio [] VHF-FM Handheld Radio  Other: | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Vehicle Parking | | | | |
| **Area designated for parking at the base:** *(Describe area designated for parking at the Base facilities.)* | | | | |
| **Overflow parking area:** *(Describe the area designated for overflow parking.)* | | | | |
| Base Facility Security | | | | |
| *(Describe the general security measures established for the base like fencing, locked gates, security cards, etc.)*  Municipal police department, with regular patrols. | | | | |
| **Is the base facility locked up during the night?** [] Yes [] No | | | | |
| **Are the managers issued a key?** [] Yes [] No  Comments: | | | | |
| **Are the contractors issued a key?** [] Yes [] No  Comments: | | | | |
| **Primary person responsible for locking up the base facilities:** | | | | |
| **Primary person responsible for opening up the base facilities:** | | | | |
| **Comment on the base facilities:** | | | | |
| Ramp Operations | | | | |
| **Number of pits:** |  | **Tie downs in the pit area:** [] Yes [] No | | |
| **Max number of airtankers the base can load:** |  | **Tie down availability outside the ramp space:** *(Check one)* | | |
| [] No Tie Downs | [] Limited Tie Downs | [] Tie Downs Available |
| **Largest airtanker that base can support?** (*i.e., MAFFS, DC-10, BAE-146 etc.)* | | | | |
| **Wingtip clearance to nearest fixed object or hazard over 3 ft high. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **Does this meet national minimum wingtip separation standards?** [] Yes [] No | | | | |
| **Aircraft overflow staging or parking area:** (*Describe the area used to stage airtankers/SEATs out of the pit area)*  **Does this area meet national minimum wingtip separation standards?** [] Yes [] No  Comments: | | | | |
| **Vehicle access on ramp:** [] No vehicle allowed [] Support vehicles only [] ATBM/SEMG vehicle upon request  [] Other vehicles: | | | | |
| **Ramp vehicle ingress/egress routes:** (*Describe the procedures for a vehicle to access the ramp)* | | | | |

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| --- | --- | --- | --- |
| Ramp Personnel | | | |
| **Recommended number of personnel needed to run base safely and efficiently:**  \_\_\_\_SEMGs \_\_\_\_RAMPs \_\_\_\_FWPTs \_\_\_\_MXMS \_\_\_\_RTCMs \_\_\_\_ATIMs \_\_\_\_  Contractor Loaders \_\_\_\_ Agency Loaders \_\_\_\_  [] Other: | | | |
| **Authorized personnel allowed to load aircraft:**  [] Contractor personnel only [] Qualified agency personnel  [] Other: | | | |
| **Specialized loading program established for the base:** [] Yes [] No  *(If yes, describe the program or type of qualifications loader need to work at the base.)* | | | |
| **Is the base approved for simultaneous loading and fueling of LATs?:** [] Yes [] No  (*If Yes, signed copy of supplement must be attached and approved by Regional Aviation Officer/State Aviation Manager.*)  **Is the base approved for hot loading LATs?:** [] Yes [] No  (*If Yes, signed copy of supplement must be attached and approved by Regional Aviation Officer/State Aviation Manager.*) | | | |
| PPE Required for Ramp | | | |
| **Dress code for agency personnel:**  [] Long pants [] Shorts authorized  [] Boots [] Closed toe shoes  [] Other: | | **Dress code for contractor personnel:**  [] Long pants [] Shorts authorized  [] Boots [] Closed toe shoes  [] Other: | |
| **PPE requirements for agency personnel:**  [] Eye protection [] Hearing protection  [] Other: | | **PPE requirements for contractor personnel:**  [] Eye protection [] Hearing protection  [] Other: | |
| **Vest requirements for agency personnel:** | | **Vest requirements for contractor personnel:** | |
| Color | Position (SEMG, RTCM, RAMP, FWPT, etc.) | Color | Position (MXMS, RTCM) |
| Green/Hi Vis |  | Blue |  |
| Orange/Hi Vis |  |  |  |
| [ ] No vest requirements for agency personnel | | [ ] No vest requirements for contractor personnel | |

|  |  |  |  |
| --- | --- | --- | --- |
| Environmental Considerations | | | |
| **Wash down equipment:**  [] No wash down area  [] Regular faucet/garden hose  [] Pressurized washer | **Containment pit or area:**  [] Established containment pit  [] Temporary containment pit/area  [] No containment pit | | **Safety equipment on Ramp:**  [] Eye wash station  [] First aid kit  [] Fire extinguisher  [] E-Vac kits  [] Other |
| **Wash down area:** *(Describe)* | **Ramp/pit drainage**: *(Describe)* | |
| **Describe spill/effluent/wash-water mitigation and contact or notification information:** | | | |
| **Designated maintenance or shut down area:** | | | |
| Pit Access | | | |
| **Established procedures for airtankers entering the pit:**  *(Describe the type of authorization that allows the pilot to enter the pit area.)* | | **Established procedures for airtankers departing the pit:**  *(Describe the type of authorization that allows the pilot to exit the pit area.)* | |
| Ramp Communications | | | |
| **Ramp frequency:**  [] VHF-AM  [] Other: | **Radio equipment used on Ramp:**  [] VHF-AM Radios [] VHF-FM Radios  [] Other: | | |
| **Headsets required on Ramp:** [] Yes [] No  **If Yes, what frequency is monitored:** [] VHF-AM [] Other: | | | |
| Flight Launch Rotation | | | |
| **Describe the flight rotation procedures established for the base (consistent with National Rotation Policy):** *(Who is up first for a dispatch?)* | | | |

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| --- | --- | --- | --- | --- |
| Water System | | | | |
| **Water supply lines:** *(Check the ones that apply to the water supply system.)*  [] Underground Plumbed Water Lines [] Surface Water Supply Lines [] Hose lay  [] Other | | | | |
| **Water metering system in place for the base:** [] Yes [] No  *If yes, describe the procedures:* | | | | |
| **Water valve system:** *(Provide as much detail as possible in the comments.)* | | | | |
| **Type of valve** | **Yes** | **No** | **Location/Comments** | |
| Primary shut off valve |  |  |  | |
| Additional shut off valve |  |  |  | |
| Additional shut off valve |  |  |  | |
| **Other miscellaneous valves:** | | | | |
| **Comments on the water system:** | | | | |
| Water Supply | | | | |
| **Primary water source**: (*Describe the primary water source used by the base.)* | | | | **Capacity:** |
| **Water ordering procedures**:(*Describe the procedures established for ordering water.*) | | | | |
| **Trigger point for re-ordering water:** (*Describe when you should notify the unit to resupply the water source*.) | | | | |
| **Timeline for re-supplying water:** (*Document the estimated time frame for re-supplying water.*)  [] Immediate [] 1-2 Hours [] 2-3 Hours [] Other: N/A | | | | |
| **Back-up water source:** (*Describe any back-up water sources available for the base*.) | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Wildland Fire Chemical (WFC) System | | | | |
| **WFC supplier:** *(Check One)* [] Full Service Contract [] Agency Supplies WFC  [] Other: | | | | |
| **WFC pumping system:** *(Check the best one that applies to the base set up.)*  [] Fully service contract that mixes the water and WFC and loads the aircraft as part of the contract.  [] Water and WFC directly supplied to the vendor support vehicle, mixed, and loaded on aircraft.  [] Water and WFC directly supplied to ground mixing tank, mixed, and loaded on the aircraft.  [] Other: | | | | |
| **WFC refractometer readings:** *(Describe how refractometer readings are taken during the mixing process.)* | | | | |
| **WFC pumps:** [] Agency Owned [] SEAT Contractor [] Full Service Contract Equipment  [] Other: | | | | |
| **How many primary pumps does the base have?**  [] 1 [] 2 [] 3 [] 4 | | **Back-up pumps available:**  [] Yes [] No \_\_\_\_ How many? | | |
| **WFC pump maintenance: Who is responsible for supplying fuel, oil, gaskets, etc. for the pumps?**  [] Agency Personnel [] SEAT Contractor [] Full Service Contractors  [] Other | | | | |
| **WFC pump maintenance: Who is responsible for maintaining the pumps?**  [] Agency Personnel [] SEAT Contractor [] Full Service Contractors  [] Other | | | | |
| WFC Supply | | | | |
| **Type of WFC Used** | | | **Type of Foam Used** | **Type of Gel Used** |
| **Liquid:** | **Powder:**  **N/A** | | N/A | N/A |
| Mix Ratio:  Refractometer: | Mix Ratio:  Refractometer: | | Mix Ratio: | Mix Ratio:  Marsh Funnel Time: |
| Re-Order Trigger Point: | Re-Order Trigger Point: | | Re-Order Trigger Point: | Re-Order Trigger Point: |
| **Ordering WFCs:** *(Describe the procedures established for ordering WFCs.)* | | | | |
| **Timeline for re-supplying WFCs:** *(Document the estimated time frame for re-supplying WFCs.)*  [] < 12 Hours [] < 24 Hours [] < 36 Hours [] < 48 Hours [] Other: 72 hours | | | | |
| WFC Storage Tanks | | | | |
| **Number of storage tanks at the base:** | | **Maximum gallons of liquid WFC :** | | |
| WFC Re-Circulation Procedures | | | | |
| **WFC re-circulation schedule :**  [] Daily [] Every 2-3 Days [] Weekly  [] Other | | **Length of time designated for re-circulation:**  [] 30 min. [] 1 Hour [] 2 Hours [] 3 Hours  [] Other | | |
| **Primary person designated to re-circulate the WFC:** | | | | |
| **Does the base have a Stormwater Pollution Prevention Plan (SWPPP)?** [] Yes [] No | | | | |
| **Primary Contact for the SWPPP:** | | | | |
| **Hazardous material and WFC spill response plan in place?** [] Yes [] No | | | | |
| **What type of additional Best management practices (BMPs) are in place?** | | | | |
| **Primary point of contact for HAZ Mat and spills:** | | | | |
| Comments on WFC System | | | | |
|  | | | | |
| Initial Briefings | | | | |
| **Primary person designated to provide the initial briefing to incoming pilots:**  [] Unit Aviation Manager/FAO [] Base Manager [] Other: | | | | |
| **Check what elements are given to the pilot on their initial briefing:**  [] Local Briefing Packet [] Maps [] Frequency Lists [] Repeater Locations [] Organizational Chart  [] Other: | | | | |
| **Primary person designated to provide the initial briefing to incoming ATBM/SEMG:**  [] Unit Aviation Manager/FAO [] Base Manager [] FMO  [] Other: | | | | |
| **Check what elements are given to the base manager on their initial briefing:**  [] Local Briefing Packet [] Maps [] Frequency Lists [] Repeater Locations [] Organizational Chart  [] Other: | | | | |
| **Type of known aerial hazard map available at the base:** (*Describe what the base is using for their aerial hazard map*.) | | | | |
| Daily Morning Operations | | | | |
| **Primary person designated to give the morning briefing.**  [] Unit Aviation Manager/FAO [] Base Manager [] Other: | | | | |
| **Primary source of intel for the base:**  [] Intel directly available at the base [] Dispatch faxes intel to base [] Intel brought out to the base  []Other: | | | | |
| **General time frame for morning briefings:** | | | | |
| **Check the items that are reviewed during the morning briefing:**  [] National Sit Report [] GACC Sit Report [] Local Sit Report [] Weather [] Lightning Map  [] ERC/BI [] Aviation Resource Report [] Fire Status [] Frequencies [] Airspace  [] Other: | | | | |
| Pilots required to do morning radio check:  [] Yes [] No | | If yes, who do they perform their radio check with? | | |
| Loaders required to do morning radio check:  [] Yes [] No | | If yes, who do they perform their radio check with? | | |
| Base Manager required to perform a morning check-in?  [] Yes [] No | | If yes, who do they contact? | | |
| **Lunch scheduling low fire activity:** (*Describe scheduling lunch breaks during periods of low fire activity*.)  [] Contractors remain at base [] Contractors depart base [] Contractors stagger or rotate for coverage  [] Other: | | | | |
| **Lunch scheduling high fire activity:** (*Describe scheduling lunch breaks during periods of high fire activity*.)  [] Contractors remain at base [] Contractors depart base [] Contractors stagger or rotate for coverage  [] Other: | | | | |
| **Lunch scheduling during an ongoing fire:** (*Describe scheduling lunch breaks during periods of high fire activity.*)  [] Agency provides contractors lunch [] Contractors stagger or rotate for coverage  [] Other: | | | | |
| Daily Evening Operations | | | | | |
| **Evening meals provide at the base:** [] Yes [] No  If Yes, describe the trigger point for providing an evening meal to contractors: | | | | | |
| **Evening debrief:** (*Describe the general base policy for conducting end of day de-briefing sessions.*)  [] Always conducted each day [] Conducted next day in AM briefing | | | | | |
| **Primary person designated to give the evening debriefing?**  [] Unit Aviation Manager/FAO [] Base Manager [] Other: | | | | | |
| **Who is responsible for providing base personnel with the duty day shut down time and next day on time:**  [] Dispatch [] Base Manager [] FMO [] Unit Aviation Manager/FAO  [] Other: | | | | | |
| Procedures Established For Ordering Airtankers | | | | | |
| **An order to mobilize an airtanker will *be received*  from the following source**:  [] Dispatch Office [] Unit Aviation Manager/FAO [] Base Manager [] FMO  [] Other: | | | | | |
| **The order will be sent to the base by the following method:** [] Fax [] Landline [] Cell Phone [] Radio  [] Other: | | | | | |
| **The order will be documented on the following form when dispatched from the base:**  [] Aircraft Dispatch Form [] Local Aircraft Dispatch Form [] ATB-3 [] Resource Order | | | | | |
| **The order to mobilize an airtanker will be *given* to the following person:**  [] Unit Aviation Manager/FAO [] Base Manager [] Other: | | | | | |
| **Type of documentation a pilot will receive to mobilize for an order:**  [] Copy of the Aircraft Dispatch Form [] Verbal Notification [] Other: | | | | | |
| **Types of record keeping required at the base: (List the documents that the unit requires copies of for the system of records keeping.)**  [ ] Inspection Sheets [] Tanker Logs [] Cost Summary Sheets [] OAS 23s  **[] Other:** | | | | | |
| Administration-SEATs | | | | | |
| **Billee Codes for the Area of Operation** | | | | | |
| |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | **Agency** | **Unit Name** | **Billee Code** |  | **Agency** | **Unit Name** | **Billee Code** | | BLM |  |  |  | FWS |  |  | | USFS |  |  |  | STATE |  |  | | BIA |  |  |  |  |  |  | | NPS |  |  |  |  |  |  | | | | | | |
| **Charge Codes:** | | | | | |
| **Obtaining Charge Code Information:** *(Describe how the manager obtains their charges codes each day for the OAS 23.)* | | | | | |
| **Who is designated to receive copies of all the documentation generated at the base: (Name of agency personnel)** | | | | | |
| **What is the timeframe for providing the agency with the copies of the required documentation:**  [] Daily [] Every week [] Every 2 weeks [] At the end of your assignment  [] Other: | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Crash-Rescue Operations | | | | | |
| Airport Fire Department: | | | # of ARFF units: | Capacity of units: | |
| Staffing: | | |  |  | |
| Nearest Hospital: | | | Lat: | Long: | |
| **Reporting Accident/Incidents On The Base** | | | | | |
| Date: | Time: | Reported by: | | |
| **INCIDENT INFORMATION** | | | | |
| **What type of incident observed or reported?** | | | | |
| **Who/What is involved?** | | | | |
| **EMERGENCY MEDICAL SUPPORT (EMS)** | | | | |
| **What Type of EMS is required?**  Injuries?  Yes  No  Unknown | | | | |
| **STEP ONE:** Try to document as much of the information possible on the table above from your observations or the individual that is reporting the incident. | | | | |
| **STEP TWO**:  **DIAL: 911 TO REPORT THE INCIDENT AND REQUEST ASSISTANCE**.  Time Notified: | | | | |
| **STEP THREE:** Notify the appropriate Initial Attack Dispatch Office and relay the known information so they can activate their Aviation Mishap Response Plan.  **Dispatch Office: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Phone:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**\_\_\_\_\_\_    Time Notified: | | | | |
| **STEP FOUR:** Establish who is the On-scene Incident Commander (IC) and who are the On-scene Incident Responders. Appoint a main contact on-site for the dispatch office to call for further information or instructions. Relay the names and titles to dispatch.  **On-scene IC**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Phone:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **On-scene Responder**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Main Contact:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Phone:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | |
| **NOTE: *Be prepared to provide the dispatch office with the following information:***  Make/Model of Aircraft:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ N#:\_\_\_\_\_\_\_\_\_\_\_ Call Sign:\_\_\_\_\_\_\_\_\_\_  Type of Fuel: Jet-A:\_\_\_\_ AV-GAS:\_\_\_\_\_ AMOUNT:\_\_\_\_\_\_\_\_\_\_\_\_  Pilot Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Driver:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Loader:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Make/Model of Fuel Truck: \_\_\_\_\_\_\_\_\_\_\_\_License #\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Amount of Fuel:\_\_\_\_\_\_\_\_\_\_\_ | | | | |

# Appendix B: Mobile Retardant Bases (MRBs)

## General

Contractor operated and maintained MRBs for mixing and loading US Forest Service qualified retardant types as listed on the USFS Qualified Products List (QPL) can be ordered to support SEAT, large airtanker, and VLAT operations as desired.

When ordering a mobile retardant base, consider factors such as the types of airtankers the base will service and the type of retardant product needed. Questions regarding the qualified and approved retardant types may be directed to the National Technology and Development Center: (406) 329-3900.

## Ordering

Individuals Authorized to Order Under The Contract.

• Dispatchers–National Interagency Coordination Center, Geographic Area Coordination Centers, or local dispatchers via Resources Orders.

• Contracting Officers from the US Forest Service and Department of the Interior with adequate Certificate of Appointment to cover the value of the order via task orders.

• Contracting Officers from other Federal Agencies with adequate Certificate of Appointments or warrants to cover the value of the order via the issuance of task orders. Orders received by the contractor from agencies other than the US Forest Service and the Department of the Interior, must be submitted to and approved by, the US Forest Service Contracting Officer before the Contractor’s acceptance of the order.

An agency Airtanker Base Manager/Agency Representative, Plant Manager/Mixmaster should be assigned to each mobile operation. Airtanker Base Manager/Agency Representative, Plant Managers/Mixmasters are responsible for contract administration functions such as:

a. Ensuring LAQA (Lot Acceptance, Quality Assurance) functions are performed according to NWCG Publication PMS 444-1, Lot Acceptance, Quality Assurance, and Field Quality Control for Fire Retardant Chemicals.

b. Verifying receipt of retardant quantities and maintaining agency records.

c. Communicating any safety and environmental concerns with the contractor that includes compliance with OSHA and EPA regulations.

## Operations

When utilizing a MRB for any type or size of airtanker, the same policies and procedures from the NWCG Standards for Airtanker Base Operations (SABO) must be adhered to. This includes developing a local ABOP, personnel, qualifications, staffing, and safety requirements.

# Appendix C: Recommended Outline for a Local Airtanker Base Operations Plan (ABOP)

The following outline is recommended to develop the required ABOP.

## Chapter 01 – Introduction

A. Objectives

B. Authority

C. Revisions/Updates

D. General Information

1. State/Regional organization

2. Airtanker base location in State/Region

3. Air tactical organization

4. Fuels and fire behavior common to area

5. Prominent landmarks in area

6. Local area orientation flight

7. Local airfield management

## Chapter 02 – Personnel

A. Agency (or Interagency) responsibilities

B. Airtanker base personnel

1. Organization chart

2. Local roles and responsibilities

3. Staffing levels

4. Plan for expanding complexity

C. Airtanker base specific training

1. Local training

2. Training documentation

## Chapter 03 – Airtanker Base Equipment and Facilities

A. Equipment

1. Equipment at the base

a. Parts and equipment storage

b. Maintenance responsibility

c. Ramp vehicles, forklift, and fueling

2. Base/Ramp/Dispatch communications equipment

3. Lighting equipment

4. Electrical system

B. Facilities

1. Airtanker base facilities

2. Aircrew standby facilities

3. Layout of the base and ramp

4. Vehicle parking plan

## Chapter 04 – Communications

1. Communications Plan
2. Phone lists
3. Flight following frequencies
4. Tactical frequencies
5. Base/ramp frequency
6. Dispatch frequencies
7. Airport frequencies

## Chapter 05 – Logistics

1. Aircrew accommodations
2. Transportation and lodging
3. Food and drink

## Chapter 06 – Dispatch Procedures

1. Briefings on base dispatching procedures
2. Notifications for dispatches
3. Flight following procedures
4. Jettison area
5. Retardant Avoidance Areas
6. Briefing and orientation
7. Geographic area and local dispatch organization
8. Zones of influence

## Chapter 07 – Operations

1. General
2. Safety briefings
3. Local ramp procedures and safety considerations
4. Aircraft parking (loading, day-off, maintenance etc.)
5. Run-up area
6. Wash down area
7. FOD abatement
8. Pit configuration in regards to LAT, SEAT, VLAT etc.
9. Local pit and ramp hazards
10. Light fixed-wing parking and ramp procedures
11. Low visibility ramp operations
12. Vehicles on the ramp
13. Visitors on the ramp
14. Retardant Operations
15. Types of retardant available
16. Retardant loading and metering
17. Retardant offloading and reloading
18. Pumping equipment (diagram)
19. Maintenance responsibility and requirements
20. Fueling
21. Local vendor(s) with contact information and services available
22. Fixed-Wing Parking Tender (FWPT) procedures
23. Procedures for Specific Tactical Aircraft
24. SEAT
25. Light Fixed-Wing
26. Helitanker
27. Smokejumper
28. MAFFS
29. VLAT
30. Fixed-Wing Base Operations
31. Personnel Transport
32. Cargo
33. IR

## Chapter 08 – Safety

A. OSHA compliance

1. Retardant mix plant and equipment

2. All agency owned, leased, or rented facilities

B. Airtanker Base Self Evaluations

1. Elements and schedule

a. Unit inspections

b. Airport inspections

c. Regional reviews

d. Others (base specific)

C. Aerial Hazard Map

1. Responsibility and procedures for update

2. Briefings on airport hazards

3. Turbulence, wind, and time of day limitations on flight activity

D. Temporary Flight Restrictions/Military Training Routes

1. Local procedures

2. Map

E. Emergency response planning and equipment

1. Emergency response plan

2. Location of emergency response equipment

3. ARFF capability and contact/ordering procedures

F. Hazard, Incident, and Accident reporting

1. Agency required system

2. Responsibilities

G. Hearing Conservation

1. Local policy and procedures

H. Dropping on or near congested areas

1. Local Procedures

I. Base safety items

1. Inventory

2. Maintenance responsibility

J. Severe Weather (thunderstorms, hail storms, strong winds, tornados, hurricane, haboob, etc.)

1. Aircraft Plan

2. Facility Plan

## Chapter 09 – Administration

A. Forms and reports

B. Incident cost reporting

C. Contract administration

1. Aircraft contracting organization with contact information

2. Retardant contract

a. Responsibility and procedures

3. Aircraft payment procedures

a. Verification of flight times

b. Schedule for submission of flight use reports

c. Payment of landing fees and airport use costs

4. Availability and standby requirements

a. Pilot standby/availability hours

b. Off-duty scheduling and means of contact

D. Facilities

1. Lease Agreements

2. Overweight Waivers/Agreements

3. Maintenance scheduling

4. Liquidated damages

5. Local airfield management

a. Regulations

b. Procedures

## Chapter 10 – Environmental Considerations

1. Wildland Fire Chemicals Dropping in Sensitive Areas
2. Wash down, Spill and Waste Management Systems
3. Containment and cleanup procedures and available equipment
4. Notifications and contacts

## Chapter 11 – Security

1. Security planning per agency guidelines
2. Aircraft Security

# Appendix D: Aircrew Briefing and Orientation Outline

It is the base manager’s responsibility to provide information regarding planned use, and above all, a comprehensive safety briefing to begin each day. Equally important is debriefing the day’s activities to identify any safety concerns that may have developed through the operational period and to review what is and is not working operationally.

The person responsible for conducting these briefings and debriefings shall be clearly identified by position and relationship to the operation. Aviation risk assessments will be completed as appropriate and reviewed with affected personnel.

Any briefing must be documented. Documentation should include the facilitator’s name; attendees printed name and signature, date, and topics discussed.

The SABO requires that each local ABOP include a Pilot Briefing and Orientation that can be handed to and discussed with aircrews.

This is an outline that discusses the areas of operation and safety. The outline should be briefed to all flight crews upon their arrival at the base. A briefing package should be provided to all flight crews. This information may include:

Noise abatement procedures as they pertain to each particular base, contacts, frequency maps, charts, and lists for all local cooperators.

A. Local Area Orientation

1. Prominent local landmarks

2. Local dispatch organizations and locations

3. Geographic area dispatch organization and procedures

4. Zones of influence

5. Jettison area

6. Fuels and fire behavior common to the area with weather zone information

B. Communications

1. Local Communications

a. Communications system map to include simplex and repeaters

b. Frequencies, call signs, and identifiers

c. Aerial communications and communication procedures

d. Airfield and airtanker base communications

e. Incident communication plan (as applicable)

C. Airspace

1 Current Class B Chart if applicable

2. If military co-located, local procedures, discuss with local military units

3. Known aerial hazards

D. Dispatching procedures

1. Use of the Aircraft Dispatch Form

2. Verification of flight times

3. Schedule for submission of flight use reports

4. Local dispatch procedures from initial report to dispatch of aircraft

5. Flight following, check-in requirements

E. Contract administration

1. Pilot standby and availability hours, off-duty scheduling, and means of contact

2. Flight times, extended hours

3. Unavailability for failure to meet contract requirements

4. Maintenance scheduling

5. Meal policy

F. Base operations

1. Type of retardant in use

2. Loading/pumping equipment capabilities

3. Aircraft parking locations and procedures

4. Airport hazards: ramps, runway, approach, and departure

5. Safe engine operations (run-up procedures and locations)

6. Mission currency requirements

7. Weather, time of day limitations for flight activities, or military operations (if collocated)

8. Flight plans, including check-in requirements

9. Crash-Rescue Plan

a. Emergency procedures

b. Emergency field and crash-rescue equipment

10. ASM/leadplane procedures and other operations

11. Any other item that is specific to the base and its operations

# Appendix E: Hot Loading Plan Template

(Click or tap here to enter text. ) AIRTANKER BASE HOT LOADING PLAN

Prepared by: Date

Base Manager

Reviewed by: Date

Forest Aviation Officer/Unit Aviation Manager

Approved by: Date

Regional Aviation Officer/State Aviation Manager

## Purpose

This Operations Plan is prepared to conduct hot loading procedures safely and efficiently as specified by the SABO. The plan incorporates hot loading procedures as specified in the SABO.

## Authority

All airtanker operations will be conducted within the guidelines as established by the SABO, contracts, and established aircraft and base operational plans.

## Distribution

A copy of this plan will be provided to all airtanker base and retardant personnel at the beginning of each season. In addition, a copy of this plan should be made available to aviation managers and cooperators as requested.

## Hazard Assessment

A Job Hazard Analysis (JHA) or equivalent for conducting hot loading operations must be completed and reviewed by all airtanker base and retardant personnel before operations.

## Required Training

Personnel considered qualified in hot loading operations will have successfully completed and reviewed the required training and materials listed below. The following information will be included within the course of instruction offered to all personnel before conducting hot loading operations:

1. Review of the SABO Hot Loading Procedures.
2. Working Knowledge of the standard FWPT hand signals.
3. Thorough training of ramp operations with personnel before performing independently under actual operational conditions.
4. Click or tap here to enter text.
5. Click or tap here to enter text.

All training will be documented and placed in the personnel training folders.

## Roles and Responsibilities

### Airtanker Base Manager (ATBM)

The base manager is responsible for authorizing hot loading operations. Provides overall safety oversight and ensures the initial shutdown and briefing is conducted before hot loading. The base manager is responsible for training base personnel on hot loading procedures and this plan, and ensures hot loading procedures are adhered to.

### Single Engine Airtanker Manager (SEMG)

The SEMG is responsible for authorizing hot loading operations and ensuring that all the SEAT operations conducted at the airtanker base follow the specifications outlined in the SABO and SEAT contracts as well as the ABOP. The SEMG is also responsible for coordinating with all airtanker base personnel.

### Ramp Manager (RAMP)

The RAMP is responsible for ensuring that trained personnel are designated to monitor communications, loading operations, and movement of aircraft. RAMP will coordinate with the SEMG to ensure that hot loading procedures for SEATs are in compliance with established guidelines and procedures and mitigate any problems or concerns that may occur.

### Fixed-Wing Parking Tender (FWPT)

The FWPT is responsible to monitor the hot loading procedures throughout the entire operation. The FWPT must maintain eye contact with the PIC as well as be able to see all running engines and the loading crew. The FWPT will cease operations when there are unintended spills, unauthorized personnel on the ramp or observes personnel approaching running engines.

### Retardant Crewmembers (RTCM)

RTCMs are responsible for observing and following the FWPT hand signals, loading the airtanker safely and efficiently while avoiding the hazardous areas of the running engine(s).

### SEAT Support Personnel

Support Personnel may be required to provide additional support when the SEAT is in the pit (cleaning windshields, etc.) and will do so only with permission from the RAMP and direction of the FWPT. The SEAT Support Personnel can assist with loading when authorized by the ATBM or SEMG.

## Operational Procedures

### Receiving Aircraft for Loading

1. The pilot will establish contact with RAMP or FWPT by radio and request to hot load.

2. The aircraft will be directed to the appropriate loading pit.

### Initial Arrival

The first specific type of airtanker arriving at the base each season shall shut down all engines before hot loading at an airtanker base. The flight crew will brief base personnel on procedures and equipment and will explain loading limitations specific to that aircraft type.

Additional instructions for SEAT aircraft are as follows:

* Review of the general operating procedures for the base and the specific procedures established for hot loading SEATs.
* Review the role of the SEMG and SEAT Support Personnel while operating at the base and during the hot loading procedures.
* Confirm the pump loading capacity gallons per minute (GPMs) with the pilot and SEAT Support Personnel.
* Consider setting up a separate area for SEATs only when operating from a LAT base during periods of high activity.

### Loading

After the initial shutdown and briefing, that specific type of airtanker may participate in hot loading operations. Upon reaching the pit, pilots will reduce engine RPM to “ground idle” and shut down engines on the loading side. When the pilot has the aircraft secured, they will inform the FWPT via radio and/or hand signal with the load amount requested and that they are clear to load.

FWPT, after visually checking the area, will signal the RTCMs with the load amount requested, and after confirmation of the load amount will give the signal to approach and hook up to begin loading. The FWPT will remain positioned to allow a clear view of the RTCMs, pilot, and running engines at all times during loading.

The RTCMs will approach and depart the aircraft only within the “Safe” area behind the trailing edge of the wing. Most hot loading operations will be conducted in this designated safety area. The MD 87’s loading port is in front of the wing therefore RTCMs will remain in front of the leading edge of the wing. RTCMs will remain a safe distance from the wing at all times. RTCMs will never go on the side of the fuselage with the running engines.

### Releasing the Aircraft

After loading has been completed the RTCMs will disconnect the hose and move to the safe area, away from prop blast, at which point the FWPT will determine if it is clear to release the aircraft to taxi. During the entire sequence, the pilot will remain in radio communication with the RAMP or FWPT who will signal to the aircraft when to exit the pit and taxi out.

## Safety Equipment

The required PPE listed in the SABO will be provided and shall be used during ramp operations. Required fire extinguishers will be provided at each loading pit.

## Aircraft Rescue Firefighting (ARFF) Equipment

Base personnel may assist in emergency operations only where their capabilities, equipment, training, and PPE are not exceeded. In all cases, firefighting resources or standby ARFF equipment will be dispatched when the threat or presence of fire is detected.

## Pump System

Most airtankers are loaded at 450 GPMs. SEATs need to be loaded at a slower rate (generally 250 GPM). The RTCMs will load all airtankers at their appropriate rates and will be trained to load the SEATs at the reduced rate.

## Communications

Aircraft will remain in communication with designated ramp personnel throughout the hot loading operation. If communications are unable to be established and maintained, the hot loading operation will be discontinued until positive communication is re-established.

## Authorized Personnel

Only personnel that are essential to the operation may be permitted on the ramp during hot loading operations. SEAT Support Personnel and aircraft maintenance crews are authorized to be on the ramp and will follow all instructions of the RAMP or FWPT.

Certification

20xx Fire Season

The following individuals have reviewed the items as specified in the Click or tap here to enter text.

Airtanker Base Hot Loading Operations Plan. Additionally, they will have met the requirements as specified through the SABO and ISOG. They have demonstrated proficiency in, and are certified to conduct hot loading operations at Click or tap here to enter text.ATB.

Click or tap here to enter text. Click or tap here to enter text. Click or tap here to enter text.

All employees (temporary, ADs or permanent) will be trained and certified annually and/or before participating in the operations. A copy of the list identifying trained and certified personnel will be kept on file.

**Name of the Airtanker Base**

**20XX Fire Season**

The following personnel have completed the required hot loading training:

| Name | Signature | Date |
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# Appendix F: Simultaneous Fueling and Loading Plan Template

(Click or tap here to enter text.) AIRTANKER BASE SIMULTANEOUS FUELING AND LOADING PLAN

Prepared by: Date

Airtanker Base Manager

Reviewed by: Date

Forest Aviation Officer/Unit Aviation Manager

Approved by: Date

Regional Aviation Officer/State Aviation Manager

## Purpose

This Operations Plan is prepared to conduct simultaneous fueling and loading safely and efficiently.

## Authority

All airtanker operations will be conducted within the guidelines as established by the SABO, aircraft contracts, and established base, and aircraft operational plans.

## Distribution

A copy of this plan will be provided to all airtanker base personnel, and Fixed Base Operators (FBO) at the beginning of each season. Anybody taking part in the simultaneous fueling and loading of airtankers will have read this plan and completed the training requirements set forth in it.

## Risk Assessment

A risk assessment has been completed by the individual airtanker contractors and submitted to the National Office.

## Required Training

Personnel considered qualified in simultaneous fueling and loading operations will have successfully completed the training listed below. The following information will be included in the course of instruction:

1. Review of the vendors’ Risk Assessment and Safety Procedures.
2. Working knowledge of the standard FWPT hand signals.
3. Thorough training of ramp operations with personnel before performing independently under actual fire situations.
4. Pre-season meeting with the FBO to review this plan.
5. Click or tap here to enter text.
6. Click or tap here to enter text.

All training will be documented and placed in the personnel training folders.

## Roles and Responsibilities

### Airtanker Base Manager (ATBM)

The ATBM is responsible for authorizing simultaneous fueling and loading operations. Provides overall safety oversight and ensures the initial shutdown and briefing is conducted before simultaneous fueling and loading. The ATBM is responsible for training base personnel on simultaneous fueling and loading procedures and this plan, and ensures simultaneous fueling, and loading procedures are adhered to.

### Ramp Manager (RAMP)

The RAMP is responsible for ensuring that trained personnel are designated to monitor communications, loading, fueling, and movement of aircraft. Follow RAMP procedures for fueling as outlined in the SABO.

### Fixed-Wing Parking Tender (FWPT)

The FWPT is responsible to monitor the simultaneous fueling and loading procedures throughout the entire operation. The FWPT will cease operations when there are unintended spills, fuel vapors, or unauthorized personnel on the ramp. Follow FWPT procedures for fueling as outlined in the SABO.

### Retardant Crewmembers (RTCMs)

RTCMs are responsible for observing and following the FWPT hand signals, loading the airtanker safely and efficiently while avoiding the fueling operations.

### Fueler

Fuelers are responsible for observing and following the FWPT hand signals and fueling the airtanker safely and efficiently while avoiding the loading operations.

## Operational Procedures

### Receiving Aircraft for Loading

1. The pilot will establish contact with the RAMP or FWPT by radio on (list base frequency here).

2. The aircraft will be directed to the appropriate loading pit.

### Initial Arrival

The first specific type of airtanker arriving at the base each season shall shut down all engines before hot loading at an airtanker base. The flight crew will brief base personnel on procedures and equipment and will explain loading limitations specific to that aircraft.

### Simultaneous Fueling and Loading

The aircraft will pull into the assigned pit and shutdown the propulsion engines. The APU is the only engine permitted to run during simultaneous fueling and loading operations.

For the DC-10 the FWPT may wave on the fueler and loaders once the propulsion engines have been shut down. The fueling is controlled by the fueler from the panel under the wing. The loading operation is controlled by the DC-10 ground crew watching the floats and telling the RTCMs when to stop filling each tank.

The C-130s, BAe-146s, RJ-85s, and the MD-87s can only be fueled on the right side of the aircraft.

If the C-130’s are parked in a pit where opposite side fueling and loading cannot take place, same side simultaneous fueling and loading can be completed safely by ensuring the fuel truck approaches from the front of the aircraft and that the fueling and loading hoses never cross.

If the Bae-146s and RJ-85s are in a pit where fueling and loading cannot be done on opposite sides of the aircraft, the fuel truck can approach and fuel from the leading edge of the wing while the loading operations happen behind the trailing edge. Neither operations will break the plane of the trailing edge of the aircraft. Neither operation will cross under the wing and impact the other.

The MD-87 loads forward of the leading edge of the wing so for same side fueling and loading, the fuel truck will approach from the rear of the aircraft and stay behind the leading edge of the wing while the RTCMs do not break the plane of the leading edge. Neither operation will cross under the wing and impact the other.

The FWPT will wait for the propulsion engines to shut down and the propellers to stop completely, or on jet aircraft for the engines to be shut down, before waving on the RTCMs and the fuel trucks.

### Releasing the Aircraft

After loading has been completed, the RTCMs will disconnect the hose and move off the ramp. The fuel truck driver, when finished, will disconnect the fuel hose and the bonding cable and pick up the chocks to drive away from the area. The FWPT will determine if it is clear to allow the propulsion engines to be started and then release the aircraft to taxi.

## Safety Equipment

The required PPE listed in the SABO will be provided and shall be used during ramp operations. Required fire extinguishers will be provided at each loading pit.

## Firefighting Limitations/Emergency Operations

Base personnel may assist in emergency operations only where their capabilities, equipment, training, and PPE are not exceeded. In all cases, firefighting resources or ARFF equipment will be dispatched when the threat or presence of fire is detected.

## Authorized Personnel

Only personnel that are essential to the operation may be permitted on the ramp during simultaneous fueling and loading operations.

## Refueling Operations

All refueling operations are the sole responsibility of the vendor and will not be performed by agency personnel.

**Certification**

**20xx Fire Season**

The following airtankers are approved for simultaneous fueling and loading operations at the Click or tap here to enter text. Airtanker Base, provided all personnel involved have been through the Simultaneous Fueling and Loading Training listed in this plan:

10 Tanker DC-10s

Coulson C-130

Coulson B-737

Neptune BAe-146s

AeroFlight RJ-85

AeroAir MD-87

A copy of the list identifying approved employees will be kept on file.

A copy of this certification has been sent to the Click or tap here to enter text.

**Name of the Airtanker Base**

**20XX Fire Season**

The following personnel have completed the required Simultaneous Fueling and Loading Training:

| Name | Signature | Date |
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# Appendix G: Standard Hand Signals for Airtanker Base Operations

**Discussion of Hand Signals**

The FWPT is an essential position on the ramp. The proper taxiing of aircraft by hand signals at an airtanker base is a critical element of safety and efficiency. If done properly hand signals provide personnel and aircraft safety on the ramp, ease of ground operations of all types of equipment on the ramp, and keep radio frequencies clear for operational or emergency traffic.

Any personnel who direct the movement of aircraft must be proficient with standardized hand signals. Standardized hand signals help ensure the safety and efficiency of ramp operations. Personalizing hand signals must be avoided as it can lead to confusion. See below for a depiction of all standard hand signals.

Due to the loss of depth perception at night, these signals should be the same for day and night operations with the addition of lighted wands for night operations.

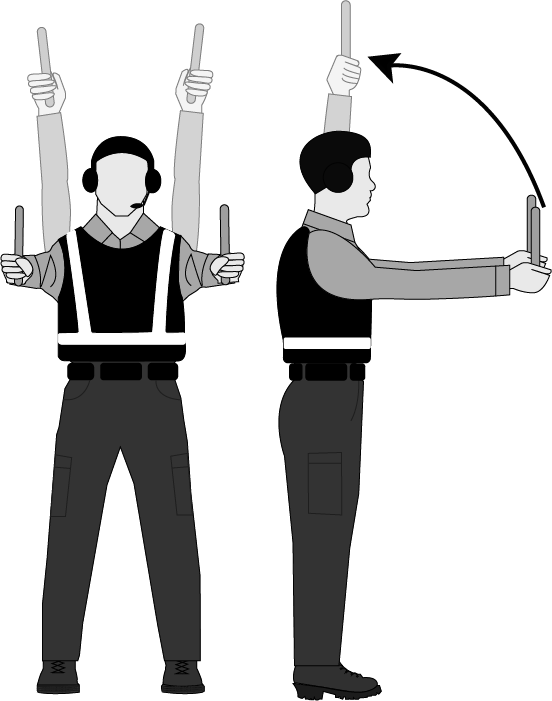
Make sure hand signals are clear and understood at all times. All aircraft movement should be slow, especially in close quarters because aircraft are difficult to stop quickly.

If in doubt as to a pilot’s intentions or understanding of your signals, stop the aircraft in position. If the pilot is unsure about your directions, stop the aircraft in position and seek clarification.

**Communicate Through Accurate, Visible Hand Signals**

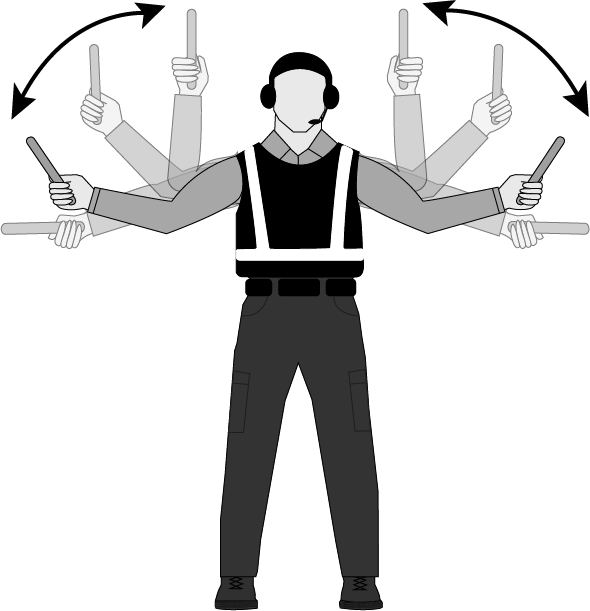
To signal an aircraft where to park, line up facing the place where you wish the airplane to stop. With your arm extended from the shoulder directly in front of you and wands facing up (or palms flat), raise your arms above your head and hold until ready to begin directing the aircraft.

This signal also identifies you as the parking tender in charge of the ground movement of the aircraft.



To move an aircraft forward in a straight line, the parking tender will utilize the **Move Forward Hand Signal**.

Stand facing the aircraft with arms extended from the shoulder to the sides. Both arms will bend at the elbow towards the head in unison and back down in a continuous motion while the parking tender wishes the aircraft to continue moving forward.



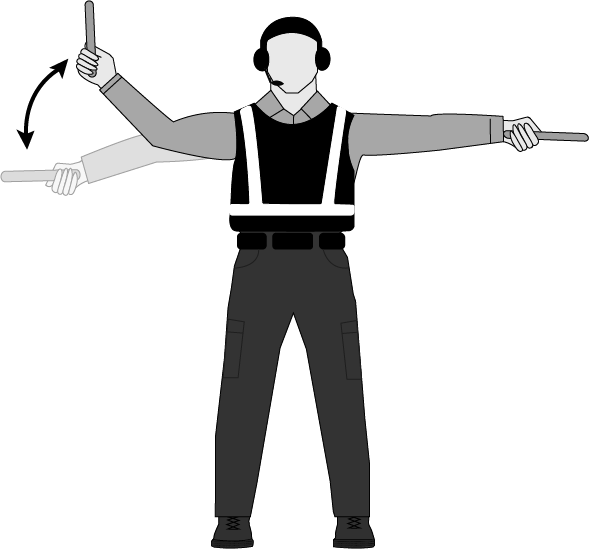
To turn an aircraft left, the parking tender will utilize the **Left Turn Hand Signal**.

Stand facing the aircraft with arms extended from the shoulder to the sides. The left arm will bend at the elbow towards the head and back down in a continuous motion while the parking tender wishes the aircraft to continue turning left.



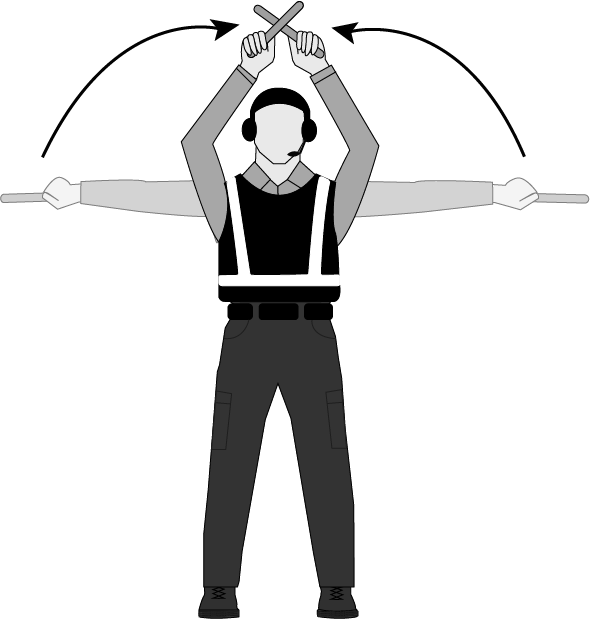
To turn an aircraft right, the parking tender will utilize the **Right Turn Hand Signal**.

Stand facing the aircraft with arms extended from the shoulder to the sides. The right arm will bend at the elbow towards the head and back down in a continuous motion while the parking tender wishes the aircraft to continue turning right.



To stop an aircraft normally, the parking tender will utilize the **Normal Stop Hand Signal**.

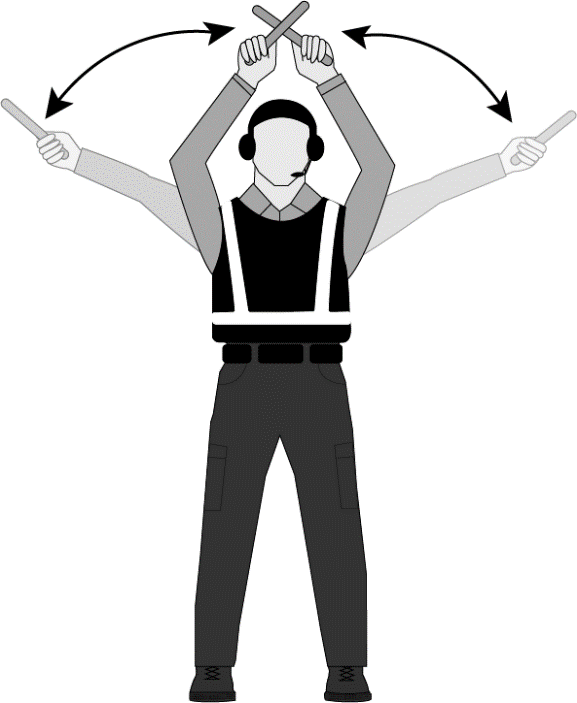
With both arms straight at sides, raise both arms from shoulders in unison slowly and cross wands (or forearms) above head at the intended stopping point.



To stop an aircraft in the event of an emergency or possible collision, the parking tender, or wing walker will utilize the **Emergency Stop Hand Signal**.

With both arms extended from the shoulder and to the sides, quickly cross wands (or forearms) above the head in unison as many times as necessary for movement to stop.

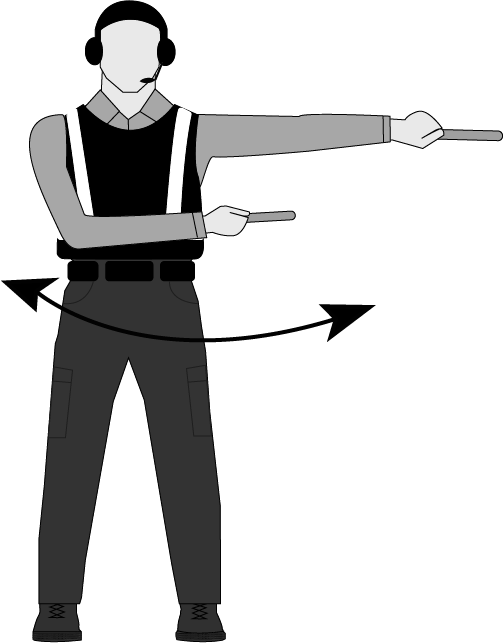
\*Parking tenders and wing walkers can also utilize radio communication while performing the Emergency Stop Signal.\*



To pass control of marshalling off to another parking tender, the parking tender will utilize the **Next Marshaller Hand Signal**.

Extend one arm at the shoulder to the side and pointing at the next parking tender, move the other arm from the side up to meet the pointing arm. Repeat until aircraft turns to new parking tender.

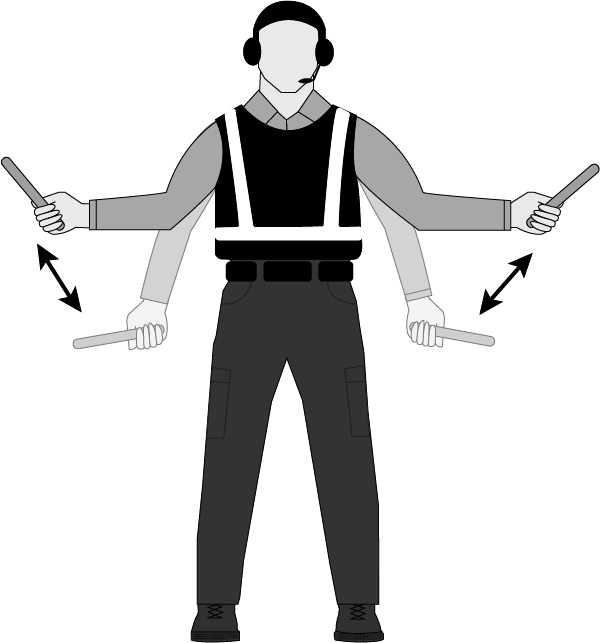
\*At this time the parking tender may become a wing walker as needed.\*



To request the flight crew slow the taxi speed of the aircraft, the parking tender will utilize the **Slow Down Hand Signal**.

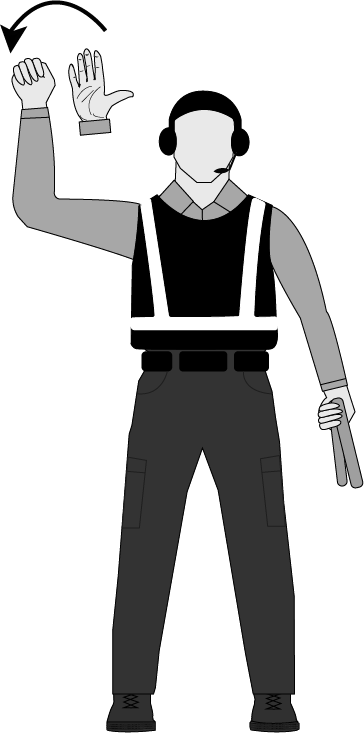
Raise both arms at the shoulder, begin waving both arms in unison from shoulder to waist until crew responds.

\*If crew does not comply, stop the aircraft, and utilize the radio to relay instructions to flight crew.\*



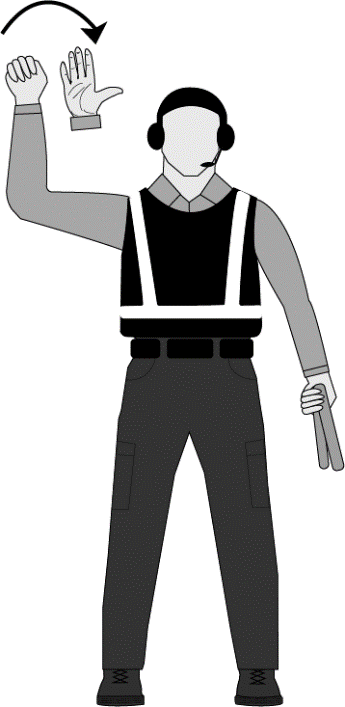
To request the flight crew to set the aircraft brakes, the parking tender will utilize the **Apply Brakes Hand Signal**.

With one (or both) hand(s) extended, palm(s) open above the head, close open hand(s) into a fist. The flight crew will respond with the same signal or Affirmative Signal.



To request the flight crew to release the aircraft brakes, the parking tender will utilize the **Release Brakes Hand Signal**.

With one (or both) hand(s) extended in a fist above the head, open, and close hand(s) palm(s) out. The flight crew will respond with the same signal or Affirmative Signal.



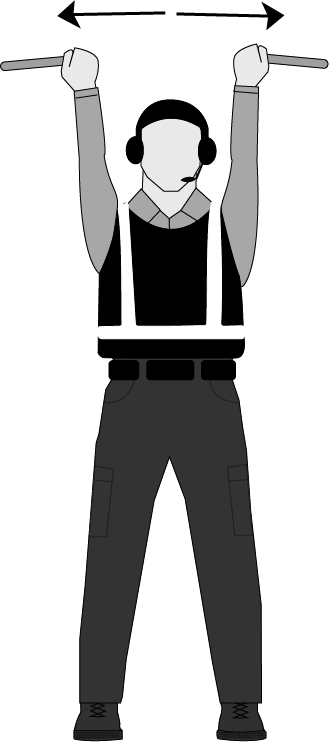
To inform flight crew of chocks inserted or flight crew requesting chocks, the parking tender will utilize the **Chocks Inserted Hand Signal**.

With wands (or hands) raised above the head at the shoulder, point wands (or thumbs) towards each other and move wands (or thumbs) together rapidly until flight crew acknowledges with the same signal or Affirmative Signal.



To inform flight crew of removing chocks or flight crew requesting chocks removal, the parking tender will utilize the **Chocks Removed Hand Signal**.

With wands (or hands) raised above the head at the shoulder, point wands (or thumbs) away from each other and move wands (or thumbs) away from each other rapidly until flight crew acknowledges with the same signal or Affirmative Signal.



When flight crews request the starting of engines, the parking tender will respond with the **Start Engines Hand Signal**. Point to the corresponding engine while rotating the other arm above the head in a 12-inch circle until the engine has started.



\*Flight crews use numbers (number of fingers held up in the windscreen) to identify the engine to be started. Aircraft engines are numbered right to left from the parking tenders view (left to right from the crew’s point of view)—i.e., for an airplane that has two engines, the left engine from the parking tender’s point of view is #2 and the right engine is #1.

To acknowledge instructions or respond in the affirmative, the parking tender will use the **Affirmative Hand Signal**.

To respond to a request from the flight crew in the affirmative, extend the arm above the head at the shoulder with wand (or thumb) pointing up.

Flight crews use numbers (number of fingers held up in the windscreen) to identify the engine to be started. To acknowledge instructions or respond in the affirmative, the parking tender will use the affirmative Hand Signal.
To respond to a request from the flight crew in the affirmative, extend the arm above the head at the shoulder with wand (or thumb) pointing up.


To refuse instructions or respond in the negative, the parking tender will use the **Negative Hand Signal**.

To respond to a request from the flight crew in the negative, extend the arm at the shoulder straight out to the side with wand (or thumb) pointing down.

To refuse instructions or respond in the negative, the parking tender will use the Negative Hand Signal.
To respond to a request from the flight crew in the negative, extend the arm at the shoulder straight out to the side with wand (or thumb) pointing down.


When responding to the flight crew request to connect external power, the parking tender will utilize the **Connect Power Hand Signal**.

With arms above the head and palms open in a “T” formation, move lower hand towards upper hand.

\*Contractors are responsible for connecting and energizing power carts to aircraft.\*

When responding to the flight crew request to connect external power, the parking tender will utilize the Connect Power Hand Signal.
With arms above the head and palms open in a “T” formation, move lower hand towards upper hand.


When responding to the flight crew request to disconnect external power, the parking tender will utilize the **Disconnect Power Hand Signal**.

With arms above the head and palms open in a “T” formation, move lower hand away upper hand.

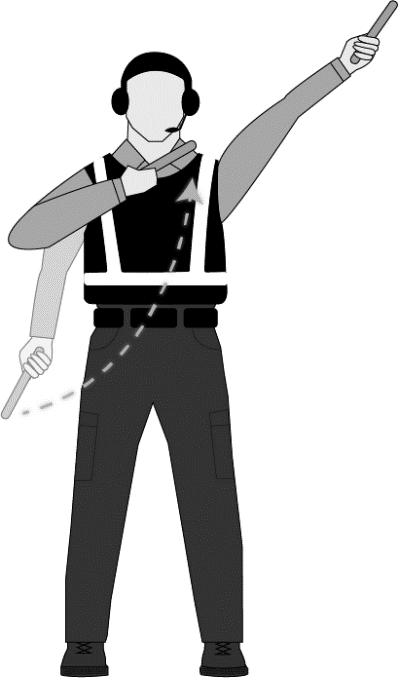
\*Contractors are responsible for disconnecting and removing power carts form aircraft.\*

When responding to the flight crew request to disconnect external power, the parking tender will utilize the Disconnect Power Hand Signal.
With arms above the head and palms open in a “T” formation, move lower hand away upper hand.


To inform the flight crew of the airstairs available for egress from the aircraft, the parking tender will utilize the **Airstairs Available Hand Signal**.

Raise one arm at shoulder to a 45-degree angle above the head. With the other arm, make a sweeping motion from side up to meet the raised arm.

\*Contractors are responsible for moving airstairs to the aircraft.\*



To inform the flight crew of the airstairs moving away from the aircraft, the parking tender will utilize the **Airstairs Removed Hand Signal**.

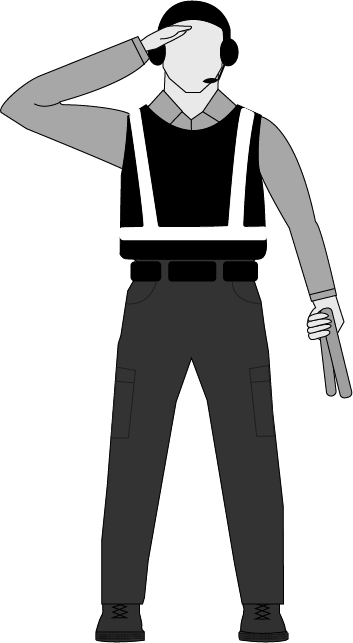
Raise both arms at shoulder to one side at a 45-degree angle above the head. Move the arm across the body down and to the side in a sweeping motion.

\*Contractors are responsible for moving airstairs away from the aircraft.\*

To inform the flight crew of the airstairs moving away from the aircraft, the parking tender will utilize the Airstairs Removed Hand Signal. 
Raise both arms at shoulder to one side at a 45-degree angle above the head. Move the arm across the body down and to the side in a sweeping motion.

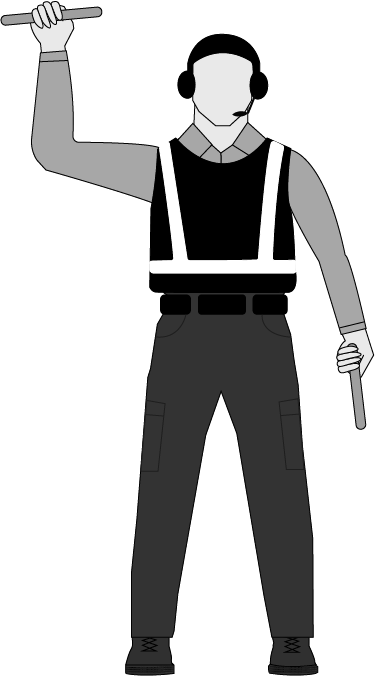

To inform the flight crew of end of marshalling, the parking tender will utilize the **End of Marshalling Hand Signal**.

In the style of military salute, raise hand to brow with fingers extended and move hand swiftly down and to the side.



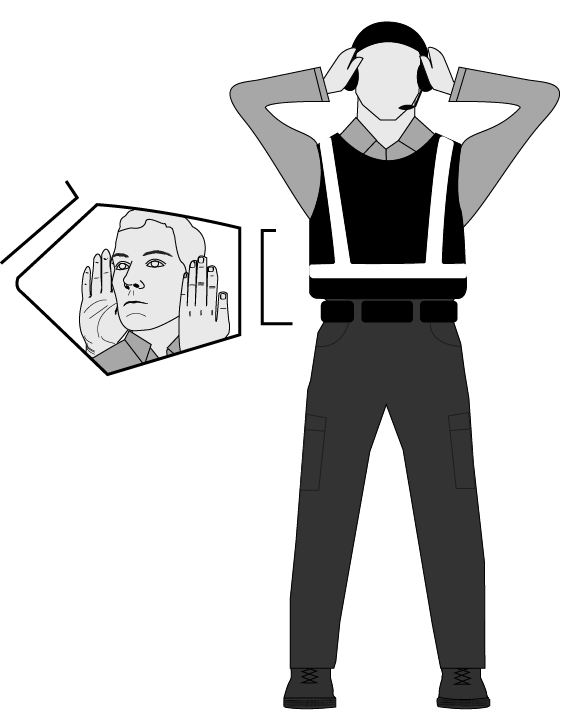
To inform the flight crew not to move flight controls (in the case of an obstruction), the parking tender will utilize the **Do Not Move Controls Hand Signal**.

With one arm extended to the side at the shoulder and arm bent at the elbow, hold wand at center point (or closed fist) until safe to move controls. If possible, parking tender should inform crew of obstruction over the radio.



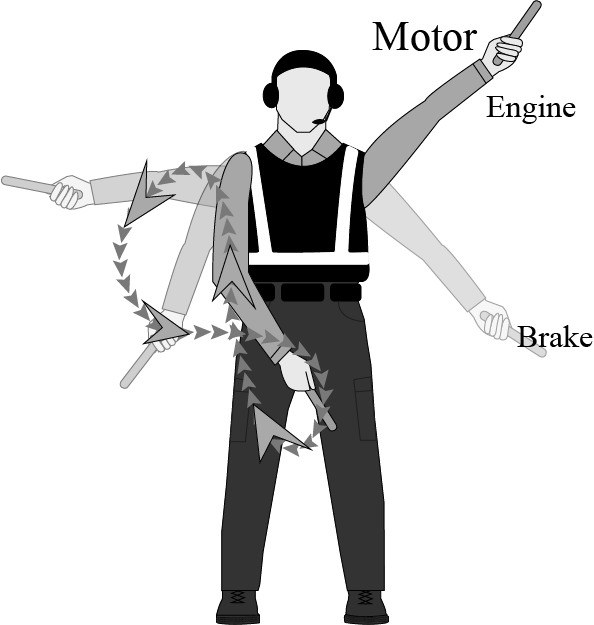
To inform crew of loss of radio communication, the parking tender will utilize the **Loss of Communication Hand Signal**.

Raise both hands and cover the ears. Repeat the motion until communication is re-established. The flight crew could utilize this signal to the parking tender to request radio communication.



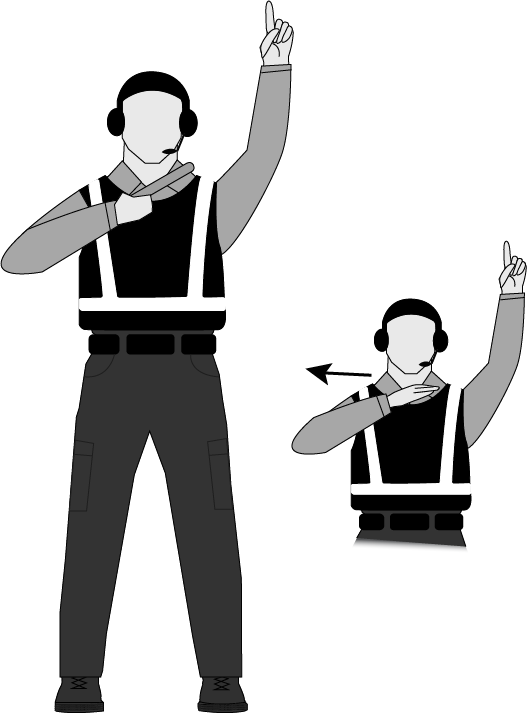
To inform the flight crew of an engine or brake fire, the parking tender will utilize the **FIRE Hand Signal**. \*This is an emergency signal and should be repeated over the radio.\*

With one arm fully extended and pointing to the location of the fire (engine or brake), rapidly move opposite arm in a “figure 8” motion until crew is made aware of the emergency.



To inform the flight crew of the need to shut down an engine, the parking tender will utilize the **Cut Engine Hand Signal**. \*This is an emergency signal and should be repeated over the radio.\*

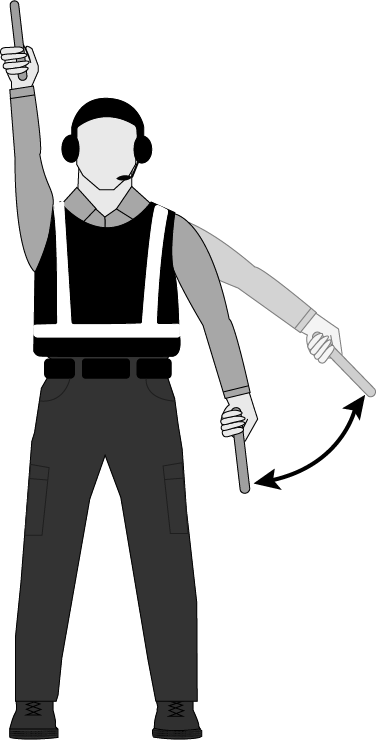
With arm extended pointing at the engine that needs to be shut down, the other arm will make a slashing motion with the wand (or thumb) across the throat rapidly until the crew is made aware of the emergency.



The proper signal for a stationary wing walker is wand (or hand with thumb up) extended above the head. If the aircraft comes within an unsafe distance of an object, the wing walker will utilize the Emergency Stop Signal and/or radio call until the operation stops.

The proper signal for a wing walker escorting an aircraft is wand (or had with thumb up) and opposite hand at side making a waving motion from shoulder.

If the aircraft comes within an unsafe distance of an object, the wing walker will utilize the Emergency Stop Signal and/or radio call until the operation stops.



# Appendix H: Additional Positions

## Fixed Wing Base Manager (FWBM)

### Introduction

The FWBM is a technical specialist and based upon need or local organization may be incorporated as part of an airtanker base operation. The FWBM reports to either the local Aviation Officer, incident Air Operations, Center Manager, or ATBM as appropriate.

### Major Duties

Orders and secures all necessary ground facilities, supplies, and services required at the operating base. Requests communications and operations support through the air support group supervisor.

Ensures adequate staffing, supervises, and assigns specific duties to assigned base personnel including RAMP, FWPT, Drivers, and other base help.

Develops and implements accountability, safety and security measures for personnel and resources and is thoroughly familiar with and enforces all safety requirements for their work area.

1. Is responsible for compliance with agency and state safety and health requirements for the work area.
2. Serves as a liaison to airport management, federal, state, and local officials, and FBO.
3. Conducts briefings with base personnel and contractors.
4. Secures a priority list of air missions and schedule of flights.
5. Obtains pertinent information on each aircraft assigned to the base.
6. Coordinates all flights with the dispatch office.
7. Maintains records on aircraft, equipment, and personnel assigned to the base.
8. Receives overhead, crews, and supplies, and verifies arrangements for transportations to assigned destination.
9. Regulates movement of assigned aircraft, motor vehicles, and personnel on the airfield.
10. Supervises the demobilization of Unit personnel equipment and supplies.
11. Ensure an accurate manifest (to include names, weight, maximum allowable takeoff weight) is completed for each load.

## MAFFS Airtanker Base Manager (MABM)

This position reports to the MAFFS Liaison Officer (MLO).

The MABM needs practical, in-depth knowledge of the full range of technical, managerial and administrative methods, practices and procedures relative to the MAFFS Coordinator/Manager function.

### Major Duties

1. Works with the MLO and airport manager to decide on the locations at the airport to set up and operate a portable retardant base, if required.
2. Coordinates with the MLO and supplier of fire retardant on setting up the portable plant.
3. Coordinates with the MLO and initiates resupply orders and on orders of support equipment for the base. Inventories and replaces items as necessary from portable base kits.
4. Works with the MLO, AES/CC and local fuel vendor on how and when the aircraft will be fueled.
5. Serves as liaison with the local ATBM when operating from an established airtanker base.
6. Coordinates with the MLO to assess the size of the ground operation, and order personnel to staff it (e.g. retardant mixmaster, compressor operators, forklift operators, etc.).
7. Regulates all movement of aircraft, motor vehicles, and personnel being used around the retardant base operation.
8. Attends daily briefings. Convenes daily meetings with all personnel (agency and military) assigned to work on the ramp. Makes assignments for the day and discusses any safety alerts.
9. Maintains a daily unit log and provides copies to the MLO.

## MAFFS Airtanker Base Specialist (MABS)

This position is located at an airport at a MAFFS or Airtanker Base and is essential for safe operation on a MAFFS aircraft base of operations. This person is supervised by the MABM or the MLO.

### Major Duties

1. Supervises FWPT and directs aircraft loaders, fuelers, forklift operators, and other personnel on the ramp area.
2. Develops and provides briefings for pilots and fuelers on parking areas and ramp traffic patterns, communications on the ramp and emergency procedures.
3. Coordinates all movement on the ramp for all aircraft, vehicles, and personnel. Maintains the overall readiness and safety of ramp facilities and operations. Orders supplies and services required at the base.
4. Ensure that all personnel on the ramp have the applicable training for the missions they are assigned and documents any training provided for base personnel.
5. Ensures the proper use of PPE by all personnel on the ramp. Establishes emergency ramp procedures and trains all personnel on these procedures. Ensures that all safety hazards and incidents are reported and corrective actions are taken.
6. Establishes fueling areas, loading pits, repair/maintenance areas, overnight parking areas, day-off parking areas, and general parking areas. Monitors and ensures the safety of all fueling operations.
7. Help arrange transportation and lodging for transient aircrews and ensures meals and drinks are provided to pilots and contract personnel during periods of high fire activity to sustain operations. May work closely with retardant personnel, providing information on aircraft movements and retardant needs.

## MAFFS Liaison Officer (MLO)

This position is the liaison for the using agency and the military organization supplying retardant delivery service and is responsible to the National MAFFS Liaison Officer and the Regional or Geographical Area Coordinator (GACC) at the operation location.

### Major Duties

1. Makes initial contact and establishes communication channels with NICC, Regional/State Office, AES/CC, MABM, Unit Aviation Officer, Forest/District FMO, Airport Manager, FAA, IIO, and Military Base Commander.
2. Coordinates with local dispatch to discuss ordering procedures and establish lines of communication, ensure that a MAFFS-qualified lead plane is available for each drop, identify local jettison area, obtain ETAs of aircraft, crews and equipment, arrange for flight following of aircraft inbound and outbound from incidents, obtain or develop flight hazard maps, arrange for fuel for military and lead planes, arrange for technical inspections of operation, aircraft and flight crews; arrange for maintenance inspections to get aircraft back in service; determine air availability.
3. Orders support personnel consistent with MAFFS Operational Plan guidelines. Orders supplies and arranges for working space and other needs if the host unit cannot provide.
4. Meets required daily reporting requirements to NICC and other interested parties as outlined in the MAFFS Operational Plan.
5. Provides/arranges for logistical support within capabilities for personnel assigned to the MAFFS operation, including meals, housing, transportation, etc. Checks facilities and arrangements for the military crews with the AES/CC.
6. Ensures radios are installed in MAFFS aircraft and that they are operational.
7. Ensures that MAFFS maintenance personnel have been ordered.
8. Obtains necessary information for daily briefings and briefs the MAFFS flight crews and incident air operations and ground support personnel on fire status and daily ATB operations. Facilitates debriefings/AARs, appraisal of capabilities, lessons learned and formal report, and final cost.
9. Maintains daily unit log and provides copies to the MAFF file.

## Field SEAT Coordinator (SECO)

The SECO position was developed to be mobilized at a state or regional level to help coordinate SEAT operations within a geographical area. The intent for the SECO is to work with all interagency partners within the defined area. Efforts for mobilizing a SECO for a specified area should involve coordinating with all agencies utilizing SEATs within that area. While deployed, the SECO will be under the day-to-day direction of the local State Aviation Manager (SAM) or Regional Aviation Officer (RAO).

The SECO must be a currently qualified SEMG with a minimum of five years of experience as a SEMG.

### Delegation of Authority

The SECO will receive written delegation of authority identifying the participating agencies, points of contact, and assignment objectives.

### Duties and Responsibilities

1. Perform as a liaison between the agency and each SEAT base of operations.
2. Perform base inspections in the field using the standard SEAT base inspection form developed for pre-season or readiness reviews. Assist in rectifying any discrepancies.
3. Offer recommendations to improve safety and operational efficiency.
4. Report all concerns/issues to the SAM/RAO as they are discovered or occur.
5. Perform area inventory for possible temporary SEAT bases. Compile a list of each prospective base of operations, listing the location, local contacts and phone numbers, latitude and longitude, and length, width, and composition of the landing surface. Provide a list of all the facilities and identify those that would be available for use by the agency for SEAT operations. Identify any restrictions or possible limitations of each site.
6. Assist the agency personnel with developing agreements or Memorandums of Understanding (MOU) for the use of airports or airstrips. Provide procurement officer with general information to help them establish agreements with local contractors for water, equipment, and supplies that may be needed for SEAT operations. (Note: The SECO does not have the authority to procure any contractors or make any agreement for rental or lease.)
7. Assist agency unit aviation managers with deployment and movement of SEAT resources. Identify the capabilities and limitations of the resources that are available for deployment. Coordinate with state/regional level aviation managers and Multiagency Coordination (MAC) groups.
8. Assist the using agency with finding available SEMGs and temporarily fill in for SEMGs on their days off when necessary.
9. Perform an evaluation of the SEMG and base operations. Offer assistance and recommendations to the SEMG to provide a more efficient and effective base of operations.
10. Provide assistance to SEMG for completing a contractor performance evaluation of the SEAT pilot and support personnel.
11. Has the authority to sign off specific tasks within the guidelines of the SEMG position task book.
12. At the conclusion of the assignment, complete a written report to present to the local SAM or RAO as well as conduct a closeout briefing. Compile a comprehensive report on all SEAT operations that were reviewed within the assigned geographical area, containing evaluations of contractor performance, SEAT base operations, SEMG evaluations, and the agency’s utilization of the SEAT in their fire program.

# Appendix I: Staffing Matrix

## Minimum Staffing Levels required for Operations at LAT Bases to meet Initial Attack Operational Requirements

Base managers have the ultimate responsibility to identify the number and positions needed daily to staff the airtanker base, given the current and expected fire activity and complexity. Most airtanker bases have more than one loading pit, but the numbers below are the absolute minimum required for a single loading pit base. Airtanker bases must meet the operational staffing level identified below unless status is of low fire danger. Base managers must coordinate with local fire staff, dispatch offices, and GACCs before staffing lower than the required minimums.

| Number of Aircraft | Staffing Configurations (Agency Personnel) | RTCMs/MXMS (Agency) | Total ATB Personnel |
| --- | --- | --- | --- |
| <3 | ATBM + ATIM + RAMP + FWPT | 2 RTCMs + 1 MXMS | 7 |
| 4-5 | ATBM + ATIM + RAMP + 2 FWPTs | 3 RTCMs + 1 MXMS | 9 |
| 6< | ATBM + ATIM + RAMP + 3 FWPTs | 3 RTCMs + 1 MXMS | 10 |
|  | Are wing walkers needed? Increase the number of FWPTs as needed for safety. | | |

A qualified base manager is required any time a full service base is within its Mandatory Availability Period (MAP), even if no airtankers are currently on-site.

A qualified ATBM may be tasked to perform any of the duties of ATIM/RAMP/FWPT/MXMS/ RTCM if qualified. The level of activity and span of control will dictate the need to assume these collateral duties. As activity or complexity increases, the ATBM should avoid dual-function roles.

* The above number of airtankers and corresponding staffing configurations are assuming the operation of a single loading pit.
* The vendor at Type A bases provide their staffing configurations, therefore, it is not accounted for in the above matrix.
* If there are two separate airtanker loading operations on one airport, double the required staffing above.
* The ramp must be managed at all times. It is the responsibility of the ATBM to maintain a safe and efficient operation. Contractor/Vendor personnel are not to marshal aircraft while on the airtanker base ramp.
* Each loading pit must have a FWPT assigned. Fueling, maintenance, and light aircraft parking areas may all necessitate the use of additional FWPT(s).
* Experience and competence levels will differ among personnel. It is the ATBM and/or RAMP responsibility to assess skills and abilities and oversee trainees. It may be necessary to provide supplemental personnel to support trainees, etc.
* Airtanker turn-around times may dictate the need for additional or fewer personnel.
* Simultaneous loading multiple pits essentially doubles the number of FWPTs and RTCMs needed. Consider loading one pit at a time if understaffed.
* All positions will meet training and qualifications as outlined in the PMS 310-1 and the standards identified in the SABO.
* At a LAT base that is operating multiple LATs and SEATs, consider ordering a SEMG.

## Minimum Staffing Levels Required for Operations at SEAT Bases

Base managers have the ultimate responsibility to identify the number and positions needed daily to staff the airtanker base, given the current and expected fire activity and complexity. Most airtanker bases have more than one loading pit, but the numbers below are the absolute minimum required for a single loading pit base. Airtanker bases must meet the operational staffing level identified below unless status is of low fire danger. Base managers must coordinate with local fire staff, dispatch offices, and GACCs before staffing lower than the required minimums.

|  |  |  |  |
| --- | --- | --- | --- |
| **# SEAT Aircraft** | **Staffing Configurations (Agency)** | **RTCMs/MXMS (Agency or Vendor)** | **Total SEAT Base Personnel** |
| <3 | \*SEMG + ATIM or RAMP or FWPT or additional SEMG | 1 RTCMs + 1 MXMS | 4 |
| 4-5 | SEMG + ATIM or RAMP or FWPT or additional SEMG | 2 RTCMs + 1 MXMS | 5 |
| 6< | Minimum 2 qualified SEMGs + RAMP or FWPT or ATIM or SEMG | 2 RTCMs + 1 MXMS | 6 |
|  | \*A qualified SEMG may be performing all duties of ATIM/RAMP/FWPT/MXMS/RTCM, PI, base manager, and completes daily paperwork. | | |
|  | Are wing walkers needed? Increase the number of FWPTs as needed for safety. | | |

* If loaders/Mixmasters are Vendor personnel they also perform fueling duties which may take away from loading operation, consider operational tempo, and order additional RTCMs or MXMS as needed.
* Ramp operations must be managed at all times. It is the responsibility of the SEMG to maintain a safe and efficient operation. Contractor/Vendor personnel are not to marshall aircraft on agency ramps.
* A qualified SEMG may administratively manage up to three aircraft.
* As activity or complexity increases, the SEMG should avoid dual-function roles which could compromise safety oversight. Units may want to consider ordering an ATBM when there is a varied and numerous mix of aircraft and personnel.
* Airtanker turn-around times may dictate the need for additional or fewer personnel.
* The above numbers are assuming one pit in use. Additional MXMS/RTCM/RAMP/FWPT may be needed if additional pits are being utilized.
* The vendor at Type A bases provide their own staffing configurations, therefore, it is not accounted for in the above matrix.
* Experience levels differ. If trainees are being used, it is the trainer’s duty to assess skills and oversee any position the trainee may be performing. It is suggested that for more than three aircraft, an additional SEMG or RAMP be ordered when inexperienced trainees are being utilized to assist and oversee operations.
* All positions of SEMG/RTCM/MXMS/ATIM/RAMP/FWPT will meet training and qualifications as outlined in the PMS 310-1 and standards identified in the SABO.
* Contractor/Vendor personnel are responsible for training their own RTCM/MXMS when operating agency or contractor provided equipment, an operational briefing must occur before operation.

Note: Agency personnel may not use SEAT vendor equipment to mix retardant. Agency personnel acting as MXMS are only to use agency owned equipment, or equipment at established bases that have been identified on the National Long-Term Fire Retardant Bulk contract (Exhibit J-1).

# Appendix J: Suggested Minimum Equipment at an Airtanker Base

QUANTITY ITEM

1 Fire extinguisher per loading pit and fuel servicing areas

1 Outside audio system (public address)

1 Telephone system with a minimum of two lines – not required in Alaska

2 Handheld radios with headsets for ramp personnel

1 Dispatch radio system – VHF-AM and VHF-FM

1 Gasoline powered back-up retardant pump

1 Chock blocks for each aircraft

1 First Aid Kit – 10-person minimum

1 Body fluids barrier kit

1 High visibility vest for each RAMP (Green) and FWPT (Orange)

1 DVD player with monitor for training

1 Organizational chart board

1 FAX machine

1 Computer and printer with internet access to obtain critical safety information, agency/incident mail, and SAFECOMs.

1 Safety signs as required to meet OSHA/State regulations

1 OSHA and NFPA 30 certified flammable liquids storage cabinet

1 Labor/Civil Rights/OSHA poster to meet federal/state regulations

1 Safety Data Sheets and binder to meet OSHA/state regulations

1 Wash down water/retardant collection containment or collection system

1 Spill containment kit for fuel and other chemical spills

1 Current Aerial Hazard map

1 Refractometer, labels, and packaging to meet LA/QA for fire retardant

1 Haz Com Station

1 Eye/shower wash stations

1 Atomic clock

1 Copy machine

1 Programmable scanner

1 Microwave oven

QUANTITY ITEM

1 Air compressor

1 Pressure washer

1 Forklift and/or hand truck

1 Vehicle for obtaining supplies and transporting personnel

1 Refrigerator

1 Vacuum cleaner

1 Ice maker (Forest Service may use bagged ice locker minimum 500 pounds)

1 Large capacity coffee maker

1 Battery charger

1 Ladder (6-foot minimum)

1 Washer and dryer

1 Erasable briefing board

1 Electrical outlet (for each loading pit). Class A installation or as required by local code

1 Assorted automotive type tool kit

1 Lock out, tag out kit

1 Mass flow meter

1 Aircraft loading valve (3-inch camlock)

1 Pipe wrench (36-inch aluminum)

6 3-inch gaskets

6 4-inch gaskets

2 3-inch female–to-female camlock thread fittings

2 3-inch female–to-male camlock thread fitting

2 3-inch male–to-female camlock thread fittings

2 4-inch female–to-female camlock thread fittings

2 4-inch female–to-male camlock thread fittings

2 4-inch male–to-female camlock thread fittings

2 4-inch female–to-male camlock thread fittings

2 3-inch sections of loading hose

1 4-inch section hose (for nonpermanent plumbed bases)

1 Jar petroleum jelly

1 Spare refractometer

1 Banding tool kit

5 Hose carts

# Appendix K: Daily Operational Briefing Materials

• FAA TFR (http://tfr.faa.gov/tfr2/list.jsp)

• National Situation Report (https://www.nifc.gov/nicc/)

• NOAA Fire Weather (https://www.weather.gov/fire/)

• Local GACC Morning Report

• 6 Minutes for Safety (https://www.nwcg.gov/committees/6-Minutes-for-safety)

• Local airspace deconfliction/aerial hazards

• Aircraft availability

• AAR for airtanker base operations from previous day

• Round Robin for today’s activity (ICL, FS, state, aircrews)

• Bulletins

• Risk Assessment

• Wildfire Lessons Learned (https://www.wildfirelessons.net/home)

• NOTAMS (https://notams.aim.faa.gov/notamSearch/nsapp.html#/)

• Relevant SAFECOMS (https://www.safecom.gov/)

• Staffing and assignments

# Appendix L: Daily Risk Assessment

## General

Personnel who are informed on tactics and strategies and supported by sound risk management decisions as well as having received timely safety reminders will add to the overall safety and effectiveness of an operation. Positive leadership ensures risk assessments are accomplished in a professional, effective manner.

Completed by ATBM/SEMG in conjunction with aircrews

Points (Risk Level)

|  |  |  |  |
| --- | --- | --- | --- |
| **Risk** | **1 (Low)** | **2 (Medium)** | **3 (High)** |
| Fire Weather | No adverse forecast, Haines Index 4, or below | Forecast T-Storms or Red Flag conditions, Haines Index 4-5 | Active T-Storms in area, Haines Index 6, Red Flag in effect |
| Winds @ Base | <15 Knots | 15-25 Knots | >25 Knots |
| Winds@Fire1 | <15 Knots | 15-25 Knots | >25 Knots |
| Gust Spread | 0-5 Knots | 5-10 Knots | 10-15 Knots |
| Crosswinds | <10 Knots | 10-15 Knots | >15 Knots |
| Visibility | >3 Miles | 2-3 Miles | <2 Miles |
| Temperature (F) | <90o | 90o–100o | >100o |
| Density Altitude | <5,000' | 5,000'-8,000' | >8,000' |
| T/O Distance2 | <50% | 50%–80% | >80% 3 |
| Fatigue4 | <15 Hours | 15-25 Hours | >25 Hours |

1–If fire winds not available, use nearest airport/reporting station/launch base information

2–T/O distance measured as a percentage of available runways

3–Consider Aircraft Download

4–Measured in hours of flight time over the previous 5 days

Total Points Risk Level Action

10-16 **(Low)** Pilot review of areas > 1 before flight.

16-23 **(Medium)** Review conditions with a/c or airbase manager before dispatch.

>23 **(High)** Notify local aviation manager or duty officer of conditions and potential delayed response until aerial supervision or on-scene resources report on conditions or conditions improve.

Conditions must be monitored throughout the day and re-evaluated as necessary.

Wind limits:

* SEAT 30 knots 15 knot gust spread
* Heavy Tanker generally ineffective in winds over 20-25 knots
* Type 3 helicopters 30 knots 15 knot gust spread
* Type 2 and 1 helicopters 40 knots 15 knot gust spread

# Appendix M: Airtanker Base Readiness Review

## Introduction

An evaluation of airtanker base personnel and designated airtanker bases should be conducted as part of pre-season preparation. The local unit should have adequate time, as identified by the evaluators, to respond to the evaluation and to identify corrective action planned or already taken.

## Purpose

The purpose of the Readiness Review is to evaluate the general readiness of the airtanker base, and identify, and correct any safety or operational deficiencies related to the airtanker base or personnel. It should be stressed that the evaluation process is meant to be a constructive process.

## Applicability

The format as contained in the Readiness Review is optional, and agencies/regions may have specific checklists. However, individual agency manual or handbook direction may require completion through reference to the SABO.

## Responsibility

Evaluations should be conducted annually or otherwise at management discretion. Aviation management at the regional, state, or local level is responsible for facilitating the evaluation.

**Team conducting this review:**

|  |  |  |
| --- | --- | --- |
| Name | Agency | Phone/Email |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**Sections**

Section A – General

Section B – Base Facilities and Communications

Section C – Planning and Administration

Section D – Ramp Operations

Section E – Retardant Operations

Section F – Personnel

Section G – Safety and Security

Section H – Summary

Evaluators Signatures

**Routing as Required by Agencies**

|  |  |
| --- | --- |
| Title | Signature |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

## Section A: General

Base Name:

Managing Agency:

**Types of Operations Conducted:**

Large Airtanker ☐

SEAT ☐

VLAT ☐

Helitanker ☐

Air Tactical ☐

Smokejumper ☐

Other ☐

Has the information for this base been updated in the Airtanker Base Directory for this year? ☐ Yes ☐ No

| **Position** | **Name** | **Contact Number** |
| --- | --- | --- |
| **FEDERAL AGENCY** | **USFS/BLM/Other** |  |
| Airtanker Base Manager |  |  |
| Asst. Airtanker Base Manager |  |  |
| Airtanker Base Technician |  |  |
| Airtanker Base Technician |  |  |
| SEAT Manager |  |  |
| Retardant Contract Inspector |  |  |
| Mixmaster |  |  |
| Retardant Crew member(s) |  |  |
| Ramp Manager |  |  |
| Fixed-Wing Parking Tender(s) |  |  |
| Aircraft Timekeeper |  |  |
| Other Position(s) |  |  |
| Unit/Forest Aviation Officer |  |  |
| Unit/Forest Fire Management Officer |  |  |

## Section A: General (*continued*)

|  |  |  |
| --- | --- | --- |
| **Position** | **Name** | **Contact Number** |
| **STATE AGENCY** |  |  |
| Airtanker Base Manager |  |  |
| Asst. Airtanker Base Manager |  |  |
| State Airtanker Contract Inspector |  |  |
| Mixmaster |  |  |
| Retardant Crew member(s) |  |  |
| Ramp Manager |  |  |
| Fixed-Wing Parking Tender(s) |  |  |
| Aircraft Timekeeper |  |  |
| Other Position |  |  |

|  |  |  |
| --- | --- | --- |
| **Position** | **Name** | **Contact Number** |
| **RETARDANT VENDOR** |  |  |
| Base Manager/Mixmaster |  |  |
| Asst. Manager |  |  |
| Retardant Crewmembers |  |  |

**Notes:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item**  **#** | **Evaluation Criteria** | **YES** | **NO** | **Remarks** |
| A1 | Does the base have on-site staffing 7 days a week during fire season? If yes how many persons? |  |  |  |
| A2 | If the base is not normally staffed when an airtanker is not on-site how much lead-time is needed to open the base? |  |  |  |
| A3 | Are there persons designated as “on call” to open the base? What options are planned if they cannot be contacted? |  |  |  |
| A4 | Does the ATBM have collateral duties during fire season? |  |  |  |
| A5 | Is there an assistant ATBM?  How is the base staffed when the ATBM is away (days off, sick, or vacation) |  |  |  |
| A6 | How are the MXMS and RTCM positions filled? Vendor or Agency? |  |  |  |
| A7 | How are the RAMP and ATIM positions filled? CWN or day-to-day staff? |  |  |  |
| A8 | Are adequate personnel available to meet the requirements of base staffing? |  |  |  |
| A9 | Do detailers staff the management of the base? |  |  |  |

**Notes:**

## Section B: Base Facilities and Communications

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item #** | **Evaluation Item/Criteria** | **Yes** | **No** | **Remarks** |
| B1 | Does the base have adequate space for the number of personnel working there and for intended operations? |  |  |  |
| B2 | Does the operations area provide adequate visibility of arriving and departing aircraft? |  |  |  |
| B3 | Is the operations area well organized (materials and references accessible and labeled, maps on wall, etc.)? |  |  |  |
| B4a | Is there a back-up power system at the base for the operations area? |  |  |  |
| B4b | Is there a back-up power system for the retardant plant? |  |  |  |
| B5 | Is a Communications Plan posted, and are frequencies (Initial Call-in, Airnet, Forest/Field office Net, Ramp) posted on this plan? |  |  |  |
| B6 | Does the base have VHF-AM equipment? |  |  |  |
| B7 | If VHF-AM frequencies are being used are appropriate, authorized frequencies assigned? |  |  |  |
| B8 | Access to AFF and viewing monitor? |  |  |  |
| B9 | Does the ATIM know proper radio use procedures? |  |  |  |
| B10 | Is the telephone system adequate for intended activity (numbers of lines and phones)? |  |  |  |
| B11 | Are instructions for use of the phone system posted, including warning on use of agency phones for personal business? |  |  |  |
| B12 | Are appropriate phone numbers clearly posted (local dispatch, crash-rescue, FBO, etc.)? |  |  |  |
| B13 | Is there a public address system at the base? |  |  |  |

| **Item #** | **Evaluation Item/Criteria** | **Yes** | **No** | **Remarks** |
| --- | --- | --- | --- | --- |
| B14 | Is the Pilot Ready-Room Standby Area adequate? |  |  |  |
|  | Air conditioning available? |  |  |  |
|  | Heating available? |  |  |  |
|  | Hot and cold potable water? |  |  |  |
|  | Shower? |  |  |  |
|  | Restroom facilities? |  |  |  |
|  | Lounge area? |  |  |  |
|  | Adequate lighting? |  |  |  |
|  | Lockers? |  |  |  |
|  | Desks? |  |  |  |
|  | Wi-Fi/internet access? |  |  |  |
|  | Flight planning area? |  |  |  |
|  | Eating facilities? |  |  |  |
|  | Sleeping and resting facilities? |  |  |  |
|  | Refrigerator? |  |  |  |

**Remarks:**

## Section C: Planning and Administration

| **Item**  **#** | **Evaluation Item/Criteria** | **Yes** | **No** | **Remarks** |
| --- | --- | --- | --- | --- |
| C1 | Are the following references available at the base and easily accessible (electronic or hard copy)? |  |  |  |
|  | Aviation Management Manuals and Handbooks (all cooperators)? |  |  |  |
|  | Health and Safety Codes for the appropriate agency? |  |  |  |
|  | Current airtanker contracts, USFS, and DOI? |  |  |  |
|  | Communications Plan? |  |  |  |
|  | NFPA 407 Standards for Aircraft Fuel Servicing? |  |  |  |
|  | Geographic Area Mobilization Guide and Local Plans from appropriate agencies? |  |  |  |
|  | NWCG Standards for Airspace Coordination? |  |  |  |
|  | Emergency Response Plan? |  |  |  |
|  | Training course material (including applicable videos)? |  |  |  |
|  | Interagency Standards for Fire and Fire Aviation Operations (Red Book)? |  |  |  |
|  | NWCG Standards for Helicopter Operations? |  |  |  |
|  | Interagency Aerial Supervision Guide? |  |  |  |
|  | Is the SABO available and up-to-date? (Check revision page) |  |  |  |
| C2 | Are contractor and base personnel aware of the national policy concerning provision of lunches to contract crews by the agency? |  |  |  |
| C3 | Have leadplane, ASM, and ATGS policy and procedures been discussed with aircrews? |  |  |  |
| C4a | Are aircrews and base personnel aware of the national policy concerning airtanker rotation? |  |  |  |
| C4b | Are aircrews and base personnel aware of dispatch requirements as contained in the aircraft contract? |  |  |  |
| C4c | Are they aware of the exceptions to the 15-minute dispatch/reaction time clause? |  |  |  |
| C4d | Are aircrews and base personnel aware of the policies concerning startup/cutoff times and requirements for aerial supervision? |  |  |  |
| C4e | Are aircrews aware of the national policy concerning dropping of retardant in congested areas (exemptions)? |  |  |  |
| C5 | Is the sunrise/sunset chart posted? |  |  |  |
| C6 | Is there adequate forms of transportation for aircrews to and from lodging/eating facilities? |  |  |  |
| C7 | Are personnel aware of local policy concerning transportation of aircrews to and from lodging and eating facilities? |  |  |  |
| C8 | Is an atomic UTC clock located in the operations area? |  |  |  |
| C9 | Have aircraft timekeeping procedures been established, reviewed with base personnel, and aircrews, and are they adequate to ensure accuracy? |  |  |  |
| C10 | Does the base have established procedures for flight following (AFF)? |  |  |  |
| C11a | Is a map of known local aerial hazards posted? |  |  |  |
| C11b | Is the hazard map accessible to both base personnel and pilots? |  |  |  |
| C11c | Has the map been updated? Date of last revision? |  |  |  |
| C11d | Is there a key on the map that identifies type of hazard? |  |  |  |
| C11e | Are Military Training Routes and Special Use Airspace (Military Operations Areas, Restricted Areas, etc.) clearly marked? |  |  |  |
| C11f | Are transmission wires and other hazards clearly marked? |  |  |  |
| C11g | Has a safety briefing been held with all aircrews concerning local known hazards? |  |  |  |
| C12 | Are aircrews aware of the use of aircraft dispatch form? |  |  |  |

| **Item**  **#** | **Evaluation Item/Criteria** | **Yes** | **No** | **Remarks** |
| --- | --- | --- | --- | --- |
| C13 | Is the Local ABOP updated, approved, and available for all personnel? |  |  |  |
|  | Does the Supplement depict or discuss the following: |  |  |  |
|  | A current organization chart for the airtanker base? |  |  |  |
|  | A current organization chart for the local air attack organization? |  |  |  |
|  | A current organization chart for the agency’s contracting organization? |  |  |  |
|  | A current organization chart for the dispatch organization? |  |  |  |
|  | A map of the local area with prominent landmarks? |  |  |  |
|  | A map with zones of influence /initial attack areas? |  |  |  |
|  | A map with local airfield hazards/jettison areas? |  |  |  |
|  | A road map of the local area? |  |  |  |
|  | A list of equipment and parts at the base? |  |  |  |
|  | Description of fuels and fire behavior common to the area? |  |  |  |
|  | Agency responsibilities (especially at interagency bases)? |  |  |  |
|  | Duties and responsibilities of airtanker base personnel (as they differ from those in the SABO)? |  |  |  |
|  | Local aircraft contract administration procedures? |  |  |  |

| **Item**  **#** | **Evaluation Item/Criteria** | **Yes** | **No** | **Remarks** |
| --- | --- | --- | --- | --- |
| C13  (cont) | FWPT roles and responsibilities during fueling operations? |  |  |  |
|  | Use of forms and reports (aside from those outlined in the SABO)? |  |  |  |
|  | Local procedures for payment of landing fees and airport use costs? |  |  |  |
|  | Procedures for submission of payment documents? |  |  |  |
|  | Retardant contract administration procedures? |  |  |  |
|  | Retardant billing procedures? |  |  |  |
|  | Local airfield management (procedures/regulations)? |  |  |  |
|  | Use of night lighting equipment? |  |  |  |
|  | Base electrical system (normal and emergency)? |  |  |  |
|  | Base security plan? |  |  |  |
|  | Aircraft Operating Plans that base is approved for? |  |  |  |
|  | Use of mass flow metering system for safety and or payment? |  |  |  |
|  | Wash down / spill recovery and waste disposal procedures? |  |  |  |
| C14 | Is the Base Hot Loading Plan updated, approved, and available for all personnel? |  |  |  |
| C15 | Is the Base Simultaneous Fueling and Loading Plan updated, approved, and available for all personnel? |  |  |  |

**Remarks:**

## Section D: Ramp Operations

| **Item**  **#** | **Evaluation Item/Criteria** | **Yes** | **No** | **Remarks** |
| --- | --- | --- | --- | --- |
| D1 | Is the ramp location adequate? |  |  |  |
| D2 | Ramp is capable of accommodating how many airtankers? (VLATs, large airtankers, and SEATs) |  |  |  |
|  | In the loading pits |  |  |  |
|  | Load simultaneously |  |  |  |
|  | Parking |  |  |  |
|  | Space for unavailable aircraft |  |  |  |
| D3 | Is ramp surface in good condition? |  |  |  |
| D4 | Are taxi lines and ramp adequately marked and visible? |  |  |  |
| D5 | Are wind indicator(s) properly placed? |  |  |  |
| D6 | Are foreign object debris measures in place? |  |  |  |
| D7 | Are the following warning signs posted appropriately: |  |  |  |
| No smoking |  |  |  |
| Hazardous Areas |  |  |  |
| Authorized parking signs |  |  |  |
| Signing and marking for Ramp Security |  |  |  |
| Vehicle control signs designated to restricted areas |  |  |  |
| D8 | Is ramp fenced and can the ramp be secured? |  |  |  |
| D9 | Are aircraft type fire extinguishers available where appropriate? |  |  |  |
| D10 | Are extinguishers the proper type and have they been inspected? |  |  |  |
|  | Number |  |  |  |
|  | Type |  |  |  |
|  | Capacity |  |  |  |
|  | Condition |  |  |  |
|  | Dates of last inspection |  |  |  |
| D11 | Have appropriate airtanker base personnel received annual training in crash-rescue procedures and use of extinguishers? |  |  |  |
| D12 | Are there a sufficient/serviceable number of chock blocks for aircraft and are personnel aware of their proper use? |  |  |  |
| D13 | Are the standard hand signals and color designated vests being used? |  |  |  |
| D14 | Are there night and day wands available and being used? |  |  |  |
| D15 | Are there sufficient tie downs for light aircraft and SEATS, etc.? |  |  |  |
| D16 | Is there a night lighting kit available for night maintenance, etc.? |  |  |  |
| D17 | Is there a first aid kit readily available at the ramp? |  |  |  |
| Is the kit well maintained? |  |  |  |
| D18 | Are catwalks and ladders adequate to meet OSHA standards? |  |  |  |
| D19 | Are walkways on tanks painted with non-skid type paint? |  |  |  |
| D20 | Do pump shafts have guards? |  |  |  |
| D21 | Are eyewash and emergency shower facilities provided? |  |  |  |
| D22 | Is there adequate PPE and is its use known? |  |  |  |
| D23 | Does the base have FWPT-to aircraft communications? (push-to-talk headsets or other)? |  |  |  |

**Remarks:**

## Section E: Retardant Operations

| **Item**  **#** | | **Evaluation Item/Criteria** | | **Yes** | **No** | **Remarks** |
| --- | --- | --- | --- | --- | --- | --- |
| E1 | | Contractor operated retardant base? | |  |  |  |
| E2 | | Agency operated retardant base? | |  |  |  |
| E3 | | Is the retardant mixing and storage equipment owned by the retardant company? | |  |  |  |
| E4 | | Is the retardant mixing and storage equipment owned by the agency? | |  |  |  |
|  | | What type(s) of retardant are used at this base? | |  |  |  |
| E5 | | How much storage capacity exists at the base? | |  |  |  |
|  | | Wet | |  |  |  |
|  | | Dry | |  |  |  |
| E6 | | Is there adequate covered storage area for retardant? | |  |  |  |
| E7 | | Is there an adequate supply of retardant available and are personnel aware of procedures for re-order? | |  |  |  |
| E8 | | Are retardant testing equipment and charts available and are personnel knowledgeable in their use? | |  |  |  |
| E9 | | Is mass flow meter in use and is it being used properly? | |  |  |  |
|  | | Last calibration date? | |  |  |  |
| E10 | | Is there an adequate water supply? | |  |  |  |
|  | | Gallons available for immediate use? | |  |  |  |
| E11 | | Does the base have offloading capability? | |  |  |  |
| E12 | | Does the base have adequate washdown capability and facilities? | |  |  |  |
| E13 | | Are retardant spills and washdown areas being drained properly? | |  |  |  |
| E14 | | How many aircraft can be loaded simultaneously? | |  |  |  |
|  | | Is this loading capability adequate to the level of activity for the base’s zone of influence? | |  |  |  |
| E16 | | Is pumping system (hoses, caps, lines, pumps) in working order? | |  |  |  |
| E17 | | Does the base hot load airtankers? |  |  |  | |
|  | | Does the base fuel and load simultaneously? |  |  |  | |
|  | | If yes, have all personnel received the required training for that operation and is there supporting documentation? |  |  |  | |
| E18 | | Are retardant samples being sent to WFCS as required? |  |  |  | |
| E19 | | Is feedback on samples being received from Missoula and are corrective actions being taken in a timely manner? |  |  |  | |

## Section F: Personnel

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item**  **#** | **Evaluation Item/Criteria** | **Yes** | **No** | **Remarks** |
| F1 | Do all base personnel meet training requirements for position filled? |  |  |  |

## Section G: Safety and Security

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item #** | **Evaluation Item/Criteria** | **Yes** | **No** | **Remarks** |
| G1 | Are Local, Regional, and National Security Plans on file and current? (as applicable) |  |  |  |
| G2 | Are regular safety/security briefings being conducted and documented? |  |  |  |
| G3 | Are facility safety inspections being conducted and documented? |  |  |  |
| G4 | Are background security checks required? |  |  |  |
| G5 | Is there an adequate security Operations Plan in place? |  |  |  |
| G6 | Are facilities security/surveillance systems in place? |  |  |  |
| G7 | Is the local airport authority included in the base security plan? Noted Security Deficiencies:  1.  2.  3. |  |  |  |
| G8 | Are required OSHA plans in place (Lock Out Tag Out, Hazardous Energy, Right to Know, Injury Illness Prevention Plan, SDS Station, Materials Identification, Confined Space, etc.)? |  |  |  |
| G9 | Are JHAs/or equivalent up-to-date and on file? |  |  |  |
| G10 | Training documentation up-to-date? (First Aid, Fire Extinguisher, Forklift, Crash-Rescue, etc.) |  |  |  |
| G11 | Flammable Materials Storage Lockers in place and in use? |  |  |  |

## Section H: Summary

1. **Identify the major deficiencies and corrective actions to be taken below.**

General Readiness of the Airtanker Base Facility:

Recommendations and Follow Up

|  |  |  |  |
| --- | --- | --- | --- |
| **Due Date** | **Reference Evaluation Section** | **Recommendations** | **Completion Date** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

1. **Identify the major deficiencies and corrective actions to be taken below.**

General readiness of the airtanker (Vendor) personnel:

Recommendations and Follow Up

|  |  |  |  |
| --- | --- | --- | --- |
| **Due Date** | **Reference Evaluation Section** | **Recommendations** | **Completion Date** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

1. **Identify the major deficiencies and corrective actions to be taken below.**

General readiness of the airtanker base; agency; and if applicable, the retardant vendor personnel:

Recommendations and Follow Up

|  |  |  |  |
| --- | --- | --- | --- |
| **Due Date** | **Reference Evaluation Section** | **Recommendations** | **Completion Date** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

## Section I: Evaluators’ Signatures

Evaluator Name: Signature

Evaluator Agency Date:

Evaluator Name: Signature

Evaluator Agency Date:

Evaluator Name: Signature

Evaluator Agency Date:

Evaluator Name: Signature

Evaluator Agency Date:

# Appendix N: Recommended Reference Library

In addition to the latest version of the SABO, each airtanker base should have a library that includes the references below. Base managers are responsible for maintaining the most current versions of the recommended references listed.

The most current manuals and handbooks are the electronic versions maintained by the respective agency. They can be accessed through internal mail systems or the internet.

Many of these publications may be accessed on the internet. If they are maintained in hardcopy at the base, they must be the most current version.

1. National/Regional/State/Unit Aviation Plans
2. Local ABOP
3. Airtanker base specific Simultaneous Fueling and Loading Plan
4. Airtanker Base Specific Hot Loading Plan
5. Airtanker Base Security Plan
6. Airtanker Base Emergency Response Plan
7. Aviation management manuals and handbooks (all cooperators)
8. Federal Aviation Regulations/Aeronautical Information Manual
9. Federal National Airtanker Contracts
10. Geographic area mobilization and local plans from appropriate agencies
11. Health and safety codes for appropriate agency
12. Hearing Safety at Airtanker Bases 9957-1205-SDTDC
13. *NWCG Standards for Airspace Coordination*, PMS 520 https://www.nwcg.gov/publications/520
14. *NWCG Airtanker Base Directory*, PMS 507, <https://egp.nwcg.gov/egp/default.aspx>
15. *NWCG Standards for Aerial Supervision*, PMS 505, https://www.nwcg.gov/publications/505
16. *Interagency Aviation Pocket User Guide* (Maintain multiple copies for use for Flight Manager CWN Administrative Flights originating from Airtanker Bases)
17. *NWCG*  *Aviation Technical Assistance Directory,* PMS 504, <https://www.nwcg.gov/publications/504>
18. *NWCG Standards for Helicopter Operations,* PMS 510, https://www.nwcg.gov/publications/510
19. *NWCG Standards for Interagency Incident Business Management,* PMS 902, https://www.nwcg.gov/publications/902
20. *Interagency Retardant Base Planning Guide*
21. *Interagency Standards for Fire and Aviation Operations (Red Book),*

22. *NWCG Standards for Aviation Transport of Hazardous Materials*, PMS 513, <https://www.nwcg.gov/publications/513>

23. Local flight hazard maps

24. (Globally Harmonized System) Safety Data Sheets

25. Military Use Handbook, <https://www.predictiveservices.nifc.gov/intelligence/military/Military_Use_Handbook_2006_2.pdf>

26. National Interagency Mobilization Guide, <https://www.nifc.gov/nicc/mobguide/index.html>

27. National Long-Term Retardant Contract, <https://www.fs.fed.us/fire/contracting/retardant/retardant.htm>

28. NFPA 407 Standards for Aircraft Fuel Servicing, <https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=407>

29. NFPA 408 Standard for Aircraft Hand Portable Fire Extinguishers, <https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=408>

30. NFPA 410 Standard on Aircraft Maintenance, <https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=410>

31. NFPA 412 Standard for Evaluating Aircraft Rescue and Firefighting Foam Equipment, <https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=412>

32. NFPA 422 Guide for Aircraft Accident Response, <https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=422>

33. North American Emergency Response Guidebook (ERG)

34. OSHA Field Guide, manual, and handbooks

35. Training course material (including applicable videos)

36. MAFFS Operations Plan

37. Implementation Guide for Aerial Application of Fire Retardant

38. Aircraft Rescue and Fire Fighting – current edition

39. Airtanker Ground Maneuvering and Parking Considerations – informational briefing

# Appendix O: Administration Forms and Reports

## Introduction

This appendix provides standardized airtanker base operations forms. Standardization helps to implement common procedures to meet safety, efficiency, fiscal management, and contract administration objectives. Standardized forms also provide a common basis for training development and presentation.

## Applicability

Forms described in this chapter are used to ensure uniformity of information for internal and external transmission. Select forms are for optional use (see chart below). For standardization between agencies, the mandatory forms should be used whenever they would benefit the agency or state in the compilation of information or when data or information will be transmitted to another office or agency.

These forms cover a broad range of contract administration and operational requirements relating to the management of an airtanker base and airtankers. The use and applicability of other contracting forms such as Contract Instruction, Notice to Proceed, etc., are discussed in agency contract administration guides.

The chart summarizes the ATB-series forms and SEAT forms, and responsibility for completion and routing. The ATBM/SEMG can use the chart as a quick-reference guide to form requirements.

Refer to the IABS NWCG webpage for commonly used ATB forms, https://www.nwcg.gov/committees/interagency-airtanker-base-subcommittee.

Refer to the BLM SEAT webpage for commonly used SEMG forms, https://www.nifc.gov/av\_BLMseat.html.

**Summary of commonly used airtanker base and SEAT forms (\*indicates required SEAT form)**

| **Form Name** | **Purpose** | **Individual Responsible for Completion** | **Frequency** | **Remarks** |
| --- | --- | --- | --- | --- |
| *Aircraft Dispatch Form* | To allow the ATBM to document information relayed by Dispatch and to allow copies to be distributed to tactical aircraft pilots. | ATBM/SEMG (usually by ATIM). | Upon dispatch of tactical Fixed-Wing aircraft. | Ensure minimum information is completed and accurate and distribute to all responding aircraft. |
| *\*Pilot Flight Time/Duty Day Cumulative Log* | To provide the ATBM with a means of tracking pilot duty day and flight time, thus ensuring that limitations are not exceeded. | ATBM/SEMG (usually by ATIM). | Daily at end of operations. | Form covers a 14-day period. BLM SEAT website has form designed for SEAT pilots. |
| *Fixed-Wing Base Landing Fee Record* | To summarize landings made by airtankers and is used to support payment made to airports by the Agency. | ATBM/SEMG (usually by ATIM). | Each landing. | Form should be completed from information contained on individual Aircraft/Airtanker Daily Operations and/or flight payment documents. |
| *\*Retardant Use Record* | To provide the ATBM with a record of daily retardant use to support billing, payment, and reporting documents. | ATBM/SEMG (usually by MXMS). | Each load of retardant. | Information is obtained from the metering devices and operations logs. |
| *\*Aircraft/Airtanker Daily Operations Log* | To provide a summary of all Airtanker/Pilot Duty Day/Availability/Unavailability, Flight Time, Retardant Use, and applicable cost coding for later entry to flight and retardant payment documents. It also provides information for the Contract Daily Diary. Additionally, it is used to complete the Airbase Daily Incident Cost Summary for individual fires. | ATBM/SEMG (usually by ATIM). | As events, (dispatches, takeoff, landing, and loading of retardant, etc.) occur. | This form is the primary source document for information used to create most other forms. One copy is created for each airtanker working from the base. It is used to report information on airtanker use. |
| *\*Initial Pilot/Loader in-briefing* | Initial Pilot/Loader in-briefing | ATBM/SEMG | Once at the beginning of hire at the hired base of operations. Additional in-briefings as base locations change. | Filled out once or as base locations change, supporting document that in-brief has occurred. |
| *\*SEAT Daily Ops Worksheet* | To provide a summary of daily operations, including Flight Time, Retardant Use, Pilot Duty Day/Availability and Unavailability and applicable cost coding for entry into AMD-23 flight payment document and retardant payment documents. also provides contract daily diary/log information. Can be used to complete Incident Cost Summary for individual fires. | SEMG  (often by ATIM, if present) | Daily, as events occur. (Must be filled out each day even if no flights or activity occur.) | One copy is filled out per aircraft at the base. Can be used to fill out other forms. |
| *Airtanker Base Daily Incident Cost Summary* | To fulfill reporting requirements of the Air Operations Branch on incidents to which a Type I or II Incident Management Team has been assigned. | ATBM  (usually by ATIM). | Nightly when base has been supporting a Type I or II Incident Management Team, or as requested. |  |
| *\*SEAT Pre-Use Inspection Sheet* | To document the condition of SEAT aircraft and support vehicle upon arrival at base at original order/mobilization. | SEMG | Once, at beginning of contract period. | One copy is filled out and passed along to other managers as appropriate for documentation and filing. |
| *\*SEAT Support Driver Duty Day Form* | To document the daily duty day for all support personnel associated with SEAT aircraft. | SEMG  (often by ATIM if present) | Daily at end of operations. | Form covers a 14-day period. One form should be filled out for each support personnel (usually one per aircraft). |
| *SEAT Cost Summary Form* | To document daily costs for SEATs. | SEMG  (often by ATIM if present) | Daily at end of operations, as requested. | Sheet allows summarization of multiple fires per day. One form per SEAT aircraft per day. |