

U. S. Forest service Jeffco Airtanker Base Operations Plan 2019



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Part I - Introduction

A. Objectives. *The objectives of this supplement are to:*

- 1. Define and standardize operating procedures at the Jeffco Airtanker Base in the Governments relationship with air tanker contractors and air tanker base personnel.*
- 2. Through standardization, facilitate the activation of trained personnel during periods of high fire activity.*
- 3. Provide checklists, orientation outlines, and special instructions for both Contracted employees (Pilots/Mechanics) and government employees at the air tanker base.*

B. Authority. *This local base supplement is a requirement at each air tanker base as prescribed in the NWCG Standards for Air tanker Base Operations. The guide for Jeffco Tanker Base is designed to reflect local area operations.*

C. General Information.

1. Regional Organization. *The Jeffco Airtanker Base Operations are supervised by the Arapaho/Roosevelt National Forest. The Jeffco Airtanker Base Manager/Assistant Manager, report to the FAO& FMO of the Arapaho/Roosevelt NF. Funding for safety, standardization, and training is allocated by the Regional Fire Operations Specialist, to Bases as the funds are requested.*

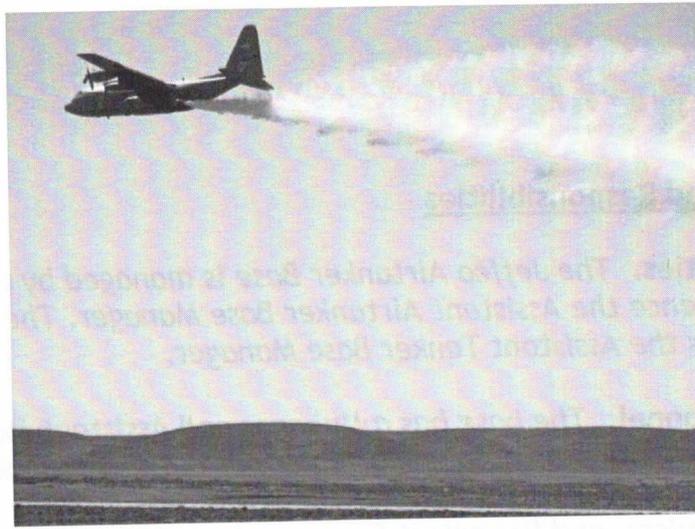
2. Airtanker Base Locations in Region. *The Rocky Mountain Region has 4 primary air tanker bases and 1 secondary reload base. The bases are as follows:*

PRIMARY- (Contract Base)

Jeffco ATB	Broomfield, CO	USFS, R-2 Rocky Mtn.	303-439-0332
Grand Junction ATB	Grand Junction, CO	BLM, GJC Center	970-257-4800
Rapid City ATB	Rapid City, SD	USFS, Black Hills, NF	605-393-1364
Durango ATB	Durango, CO	USFS, San Juan/Rio Grande NF.	970-382-8070

SECONDARY-(Re-load Base)

Pueblo ATB	Pueblo, CO	USFS, Pike/San Isabell NF	719-545-1454
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As of 2012 Jeffco ATB is a designated MAFFS (Modular Airborne Fire Fighting System) reload base for the military. Any military C-130 can be operated at our facility. There are base overweight agreements in place with the Rocky Mountain Metro Airport management. For more information contact the ATBM for the MAFFS operation plan.

4. Prominent Landmarks in the area. *The initial attack area to the west of Jeffco Airtanker Base is characterized by numerous small lakes, high mountains (Elevations over 14,000 ft.), high meadows, Large Granite outcroppings, and numerous drainages. See Map under Exhibit 5, Jeffco Operations Plan. Ask tanker base personnel for more detailed information as needed.*

5. Local Area Orientation Flight. *At start of the fire season, during initial proficiency water drops, we will try to utilize the flight to illustrate some typical terrain to the pilots as well as a view of the prominent land features. Be aware of possibility of erratic mountain winds. Flight hazard maps and retardant avoidance maps of the area are available from the ATB dispatch and displayed on the Aircraft Information wall in the main hallway of the Jeffco Tanker base..*

6. Fuels and Fire Behavior Common to the Area. *The Primary NFDRS fuel models vary greatly along the Colorado Front Range. The Front Range had 769 fires in 1996, and 394 in 1997. Lighting is responsible for 75% of the fires. The majorities approximately 90%, remain small, and less than a quarter of an acre, and do not require the assistance of retardant aircraft.*

The remaining 10% of fires are over a quarter of an acre, with 50% of those being over 10 acres in size. Most of the extended attack fires are contained successfully before the second burning period.

Fire behavior and fuel model pocket cards for the surrounding areas are posted on the Aircraft Information wall in the Main hallway of the Tanker Base and are available on the Fort Collins and Pueblo Dispatch websites.

2. Retardant Contract. *The retardant pumping operation at the Jeffco Airtanker Base is by Force Account (Employee Operated), as compared to a Full Service contract that provides the personnel for loading and mixing operations.*

a. Responsibilities and Procedures. *Jeffco ATB is managed as a Force Account Retardant base. Management of a Force Account Retardant base requires that the personnel that manage the base are responsible for maintaining a supply of fire retardant chemicals, keeping the chemical ready to be pumped, maintaining the base equipment, demand-mixing the retardant and pump in to the aircraft, and managing the aircraft traffic on the loading ramp.*

b. LAQA, Lot Acceptance and Quality Assurance. *All retardant sampling will meet or exceed requirements as outlined, in NFES 1245 Sixth Edition - May 2000. Jeffco Airtanker Base personnel will at a minimum secure the following samples.*

- *Base Opening- before the beginning of Jeffco's 7 day response period begins (April15th- November1) base personnel will take samples from each of the 3 LC tanks and send them to MTDC for testing in accordance with LAQA procedures.*
- *LC Truck deliveries- each truck load of fire retardant delivered will be sampled and sent to MTDC for testing in accordance with LAQA procedures.*
- *Base Closing- - at the end of Jeffco's 7 day response period (April15th- November1) base personnel will take samples from each of the 3 LC tanks and send them to MTDC for testing in accordance with LAQA procedures.*

3. Aircraft Payment Procedures. *The proper completion of flight payment documents is critical for the correct and timely payment to contractors. The Aircraft Timekeeper will deliver Air Operations Worksheets to Contracted Airtanker flight crews at the end of the duty day or beginning of the next day for approval. Once approved by the flight crew the Air Operations worksheet will be emailed to the COR for that Airtanker.*

a. Verification of flight times at home base and alternate bases.

When the air tanker is at its assigned base, it is the responsibility of both parties (Government/Contractor) to record and verify the accuracy of flight times, and duty hours into FLIGHT program, for subsequent payment. When the aircraft is working from an alternate base, the information must be passed back to the home base to insure proper credit for service rendered by the contractor. This can be done in one of 3 ways: (1) Home base personnel can call the alternate base and obtain the previous days flight and duty times, (2) The contractors designated representative (Pilot/Co-pilot) can call the home base and pass on the information, or (3) The management of the alternate base can send by facsimile (FAX) or email the information to the aircrafts home base, on the form (Individual Airtanker Flight Record) or a similar form.

6. Maintenance Scheduling. *Maintenance will be scheduled and accomplished according to the provisions in Section C, C.5.5, National Airtanker Contract, Aircraft Maintenance and Section F, F.2 (7), Authorized Breaks.*

- a. Unscheduled Maintenance.** Any major component change, structural damage or other maintenance as determined by COR, would require government A/P certification of airworthiness. *A request for a 1 hour maintenance break is authorized for minor repairs or safety checks on the airframe.*

7. Liquidated Damages. *Shall be determined by the ACO, after a claim is submitted by the contractor, and awarded automatically according to the Federal Acquisition Regulation, Clause 52.216-16, August 1989.*

PART IV Base Facilities, Operations and Dispatch.

A. Facilities.

1. Equipment at the Base. *The Jeffco Airtanker Base has the following equipment on the base.*

- 25 HP Electric Powered Peerless 3in Pump (Pit 1)
- 30 HP electric motor with Monarch 4in pump,
- 2 Honda 3in (gas) trash pumps,
- 36,000 gallons of liquid concentrate retardant storage,
- 10,000 gallons of water storage,
- a ramp wash down collection facility (sand /oil separator)
- 4,000 gallon capture tank with disbursement pump.
- 4,500 gallon retardant download tank for aircraft.

2. Base/Ramp/Dispatch Communications. *Communications between the dispatch and ramp are done via radio or walk in Ramp/Dispatch Operations building. The base has VHF radios with headsets for use on the ramp. Jeffco ramp frequency 124.475, for ramp, timekeeping, and aircraft communications while on the ramp. Our ramp frequency may also be used to coordinate updated flight information as well as flight following. The ramp also has an outside public address system, to alert flight crews of an imminent dispatch. Air Dispatch will be flight following with Ft. Collins Dispatch on 168.650, (tone 110.9 tx/rx) this frequency is also used for in-flight mission corrections/information. Automated Flight following is also in use for tracking aircraft movement. When a Resource Order or knee board is received for an air tanker, all radio frequencies, for the incident, will be listed and verified*

Air Guard frequency (168.625 tx/110.9) is available for communications between the air tanker, dispatch, and ground forces for emergency purposes. After dispatch, communications will be according to the information found in NWCG Standards for Air tanker Base Operations (SABO)



3. Lighting Equipment. *Lighting for security is provided by the USFS on the ramp. For night ground operations, the base has numerous portable light stands. Loading Pit number 1 is equipped with lighting for dusk operations.*

4. Electrical System. *The electrical service on the ramp is 200 amps. This service provides electricity to all the pumps (2), GFI's located on the ramp, and to the pump remote switches. In the event of an electrical failure, 2 gas-powered pumps are available to load aircraft and a generator is available (from the R2 Fire Cache) to provide power to the ready room.*

5. Flight Crew Accommodations and Facilities. *The Jeffco Airtanker Base dispatch office is located in the SE corner of the Operations Building and has ramp access. This building is equipped, with male and female locker room, showers and bathrooms. This building has an office area, living area (pilot ready room), full kitchen facilities, laundry facilities, and 2 Quiet Rooms. Designated phone lines are in service for use for calls or Internet access. For transportation to accommodations and meals, this base follows the guidelines described*

7. Pre-Dispatch Planning
8. Incident/Accident Action Plan
9. Interagency Airspace Coordination Guide
10. Ramp Safety Plan, and others.

B. Operations.

1. **General.** *Operations at the Jeffco Base are dependent on good communications, daily briefings, on-the-job training, and a demonstrated concern for safety. These key factors help in the safety and efficiency of the overall operation of the base.*

a. **Base Operations.** *Since the Forest Service is the primary operator of the Jeffco Base, the employees are responsible for ensuring compliance with local, state, and federal Regulations pertaining to hazardous materials spillage containment and disposal.*

2. **Wash down, Draining, and Spill Procedures.** *The Jeffco base has a water system that parallels the underground retardant loading line to pit two. The water system is pressurized by the city of Broomfield water main that in turn feeds the two, 1 1/2" water stanchions at each pit. The ramp is sloped to the trench drain located on the ramp.*

All wash down material flows to the drain and is collected into an underground storage tank (4000 Gallons). In the event of a spill the source is immediately identified and shut off.

Depending on the amount of material spilled, the ATBM or assistant ATBM will order a wash down or recovery be executed. A large spill will be recovered and placed into a 4000-gallon recovery tank in which time will be captured. A disposal provider will need to be contacted in order to haul off and dispose of product. A 5,000 gallon Sand/Oil Separator is in place for subsequent use. If a large amount of concentrate (>500 gals) is released into the Sand/ Oil Separator the ATBM will contact Broomfield Waste Water Management and inform them so mitigation and testing procedures can begin. Small amounts will be washed down and diluted with water. To prevent spills, the standard procedure is to close all valves when ending a procedure and opening only those valves need to proceed with the next. A briefing is given to all involved in loading and ramp operations prior to any loading event.

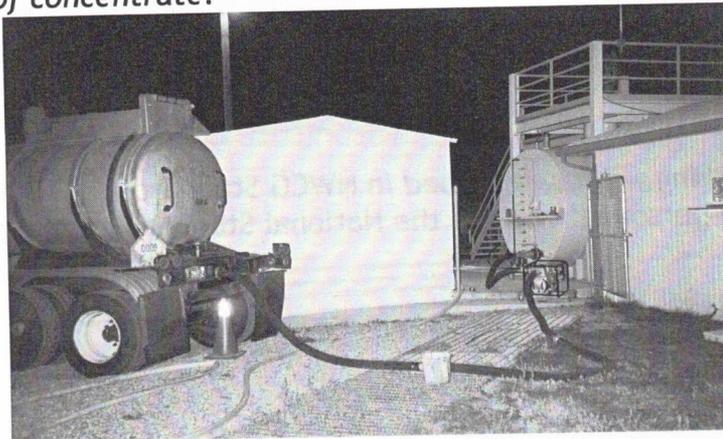
If an aircraft is to be washed down after fire operations, ensure that ALL PERSONNEL with that aircraft keep the ramp clean.

3. **Holding Areas.** *A 5000-gallon underground storage tank (sand/oil separator) is located off the ramp, to collect all wash down materials. The air tanker parking areas drain to and subsequently flow into the underground storage tank. The material collected is pumped out to the 5000-gallon Sand/Oil Separator is designed to safely dispose of small washdown components thru the City of Broomfield waste water reclamation system.*

for National Fire Retardant Chemicals, (NWCG Publication, PMS 444-1, May 2000), for more information.

1. *Ordering Procedures for afterhours retardant ordering begin by calling the Fort Collins dispatch center for a supply order number. Contact PhosCheck LLC, direct (See contact numbers) and ask for the Fire Duty Person, (He/She will need the resource order number, fire name and P-code. The person ordering the retardant must fill out an AD-700 and submit it to ASC. Retardant is delivered in a 4000-gallon tanker truck, so make sure there is enough room in the tank for off-loading. Multiple Lots can be ordered. It needs to be decided if the load needs to be expedited, as it comes from Blackfoot, ID. It takes a good 12-24 hours for delivery of product, so try to anticipate delivery time. A minimum of "two" members from the air tanker base must be available to off-load the truck when it arrives.*

- f. **Off-Loading Procedures of Delivered Retardant.** *Jeffco Airtanker Base is a forced account base. Being a forced account base we have to off-load all delivered retardant. The recirculation/ truck off load pump is utilized for all off loads of concentrate.*



2. **Retardant Testing Schedule and Procedures.** *At the Jeffco Base the procedures for testing and sampling retardant will be as described in Lot Acceptance, Quality Assurance and Field Quality Control for National Fire Retardant Chemicals, (NWCG Publication, PMS 444-1, May 2000), for more information see pages 26-37. **Samples are sent via UPS to:** Wildland Fire Chemicals 5785 Hwy 10 W., Missoula, MT 59802 (Attn: Shirley Zylstra).*

- a. **Recirculation of retardant.** *During the fire season and prior, retardant will have to be re-circulated. Jeffco Tanker Base uses a Liquid concentrated retardant (LCA-95A/R).*

Because of its content it will tend to separate into different layers if it sits for a long period of time. By aerating the mixture with high-pressure air, and the recirculation pump it allows the mix to stay in suspension (**non-settled**). To accomplish this task our base is equipped with a large diesel compressor with an attachment that is placed

just south of the hangar door. The forest Type 3 Helicopter will park in pit 1 When Approved by the Tankerbase Manager.

During times of high fire activity and when numerous aircraft are assigned to the Jeffco Tanker Base, (more than 4) additional parking will be arranged through the FBO-Signature Flight Support or Sheltair Aviation.

Day off or Maintenance parking is on the General Aviation ramp controlled either by the airport or South of the main terminal by Signature Flight Support. A security gate controls this area, and you must obtain a key or gain access through Metro airport authority. A ground guide is not required for this area but unnecessary activity must be kept to a minimum. Parking may be available on the Jeffco Tanker Ramp dependent on fire activity with permission from the Airtanker Base Manager. Additional operations regarding safety will be according to **Appendix 2, Ramp Safety Plan**, and this supplement.

4. Preflight Checks. The pilot should accomplish the standard pre-flight checklist at the beginning of each duty day. The flight crew may start the engines, if they feel it is needed. The flight crew will also check radios and frequencies, Loran/GPS calibration, and a tank systems check.

- a. **Safe Engine Operations.** When an air tanker has sat on the base for over a week, or times of cold weather the aircrew will be allowed at their option, to start the engines, complete a run up, and ensure that they are working safely and efficiently.

5. Loading. The Airtanker Base Manager, Assistant Base Manager, Ramp Manager, Parking Tenders, and Loading Crews are the **ONLY** personnel permitted on the ramp during aircraft operations. The size of the ramp crew depends mainly on the amount of activity and number of air tankers working out of the base. Personnel that are in training must stay close to their primary trainer at all times when on the ramp. If there is a question **AT ANY TIME** regarding the loading of a particular air tanker, pilots or crew will be asked prior to commencing any loading procedures. During any operations ramp personnel will conduct a visual safety check. This insures that only authorized personnel are on the ramp and ramp safety procedures are being followed.

The ramp crew shall wear hearing protectors, eye protection, and high visibility clothing. Loading crew clothing should contrast with the color of the parking tender to avoid the possibility of confusion. Jeffco follows SABO Ramp color identification procedures for ramp personnel (blue vest: RTCM, Orange vest: Parking Tender. Yellow Vest: Ramp Manager) Closed toed shoes or boots with nonskid soles are recommended (i.e.: light weight hikers, work boots, or safety boots.) for use on the ramp. Shorts are optional for ramp crews to cut down on heat related injuries from excessive physical activity. Loading of aircraft with engines running will be per the SEAT Hotloading exhibit and Large Airtanker Hotloading exhibit.

a. Local Vendors. The FBO (Fixed Base Operator) is Signature Flight Support and Sheltair Aviation. They are the main source for aviation fuel at the Metro Airport. Both provide 100LL (Low Lead) and oil for reciprocating engines, as well as Jet-A for turbine aircraft. For more information regarding updated fuel pricing and operations check out the web site: www.airnav.com and select the KBJC ICAO.

b. Procedures. Fuel may be obtained one of two ways at the Jeffco Tanker Base. The flight crew may call in on Unicom, 122.95 directly to a fuel vendor, or call the base on 124.475, to relay requested fuel vendors prior to arrival.

c. Fueling areas. Airtankers may fuel on the Jeffco Ramp during the following times:

- *Prior to the start of required duty day.*
- *End of each flight day.*
- *Simultaneous fueling and loading as approved by the base manager*

All other times fueling will be completed by the main terminal by either FBO vendor. This allows the loading pits to be open at all times during fire activity. Flight crews should obtain instructions prior to taxing onto the ramp for fueling locations.

8. Releasing of Aircraft. *Release of aircraft will be in accordance the NWCG SABO*

a. Local Procedures. *If both pits on the Base are occupied, a wing-walker must be utilized to insure proper wing clearance of aircraft moving off the ramp, especially any aircraft moving out of pit #2.*

9. Air Tactical/Lead Plane Organization and Procedures. *Currently there is 1 lead plane assigned to Region 2. During the fire season, one is on standby seven days a week, usually paralleling the air tankers duty day. When tactical aircraft is needed, (i.e.: Air Attack) dispatch will attempt to locate one with the proper radio configuration, or one already on contract for the fire season.*

C. Dispatching Procedures, Briefings, and Communications.

1. Dispatch Procedures. *Dispatch Procedures shall be as discussed in NWCG Standards for Air tanker Base Operations (SABO). Dispatches for the Jeffco Airtanker Base will be through the Fort Collins Interagency Dispatch Center. Airtankers can be dispatch with a Rocky Mountain Area Aircraft Dispatch Form (Kneeboard). When the aircraft is dispatching out of region 2 it is preferable to have a resource order alongside the kneeboard but not required. Jeffco sits on the border with the Pueblo Dispatch zone.*

a. Resource Ordering: *Aircraft Resource orders for incidents on Arapaho-Roosevelt National Forest protected lands will originate from Fort Collins Dispatch.*

approach/departure and take-offs/landings. A sterile cockpit will be maintained within a 15 mile radius of controlled and uncontrolled airports.

3. Communications. Communications shall be as described in Chapter IV, IV.C.4, Communications, and Interagency Airtanker Base Operations Guide.

a. Local System.

1. Base stations, Repeaters and VOR sights. The aircraft base station is located in the Ramp Operations building. Currently there is not a repeater in use in conjunction with this base unit. The Jeffco VOR is located on the Rocky Mountain Metropolitan Airport.

2. Airfield and Base Communications. The Rocky Mountain Metropolitan Airport is Class "D" controlled airspace. Hours of operation are 0600-2200 daily. The assigned flight service station is Denver. Communications with the dispatch center are on VHF-FM radio or with the tanker base on VHF-AM radio, or by telephone.

3. Lead plane Communications and Communication Procedures. A lead plane is required to accompany a mission where two or more air tankers will be over the fire at the same time, if the air tanker pilot is not initial attack rated, if the fire is in a congested area, is requested by the air tanker pilots, or if MAFFS are ordered and activated for the incident. The local air tactical frequency varies depending upon which state and which zone you may be flying in. A map of these frequencies and zones is posted in the ready room, with copies for each air tanker. Flight following is 168.650 (tone 110.9 tx/rx). When the lead planes are assigned to an incident, the pilot will be identified by a predetermined call sign, (i.e.: Lead 21 or Lead 77 etc.) Lead planes will contact the requesting unit dispatcher upon arrival and upon departing, if an Air Tactical Group Supervisor (AGTS) is stationed over the fire, communications from the dispatch center/air tanker base, will be directed to that person, who will in turn relay the information to the lead plane pilot. If there is no ATGS over the incident, the lead plane pilot will be the direct air tactical link.

4. Large Fire Communications Plan. If the Jeffco base is the main base utilized on an extended attack incident, an Incident Action Plan (IAP) will be obtained, daily, for the morning briefings of all tactical aircraft flight crews. Communications information will be obtained from the ICS 205 form, Incident Radio Communications Plan, that is located within the IAP. These are emailed to Jeffco Tanker Base prior to start of next duty day. A complete IAP will be distributed to ATGS, Air Attack, and Lead planes.

b. Flight Tracking and Check-In Requirements. At the contract pre-work meeting, flight crews will be advised of required check-in procedures, while in flight. Aircraft operating out of Jeffco or any incident will check in and flight follow with dispatch unless other arrangements have been made and approved by Fort Collins Dispatch. All aircraft will be monitored via AFF. (Automated Flight Following) The sending unit has the responsibility

- a. **Turbulence, Wind and Time of Day Limitations on Flight Activity.** Information on turbulence will be obtained from pilot reports of such activity, when going to, over, or returning from a fire and relayed to other flight crews working from the base. Additional information will be obtained from the control tower, or **Foreflight**

Flight restrictions during high wind events will be obtained from the flight crews and relayed to dispatch. Time of day flight activity limitations will be obtained from either the ATGS or the Airtanker Supervisor (Lead plane Pilot).

C. TFR's/MTR's. Temporary Flight Restrictions (TFR) will be according to the provisions in the Interagency Airspace Coordination Guide. Military Training Routes, in the area, will be monitored via the AP-1B, Military Training Routes Handbook. Current versions are available in dispatch by request, and in the pilots lounge.

1. **Local Procedures.** In the event that an Incident Commander requests a TFR, the request form in the Interagency Airspace Coordination Guide, is filled out by the dispatch center, with the appropriate information, and passed on to RMACC. The Denver ARTCC (Air Route Traffic Control Center) is contacted, by Rocky Mountain Area Coordination Center (RMACC). After the information on the request form has passed on the ARTCC, they will give the caller a TFR (Temporary Flight Restriction) number, that the dispatch center will place on a resource order (AIRCRAFT) to document the TFR. After the emergency ceases to exist, the TFR will be cancelled.

2. **MTR Map.** The tanker base will possess and update the current map illustrating Military Training Routes that traverse the Initial Attack Area. It will be updated/issued regularly by IAMS. When the TFR is cancelled, the map symbol will be removed if necessary. This information will be noted on the Aircraft Resource Order, and briefed to flight crews. Current maps are located near the north door of the main building.

D. Crash-Rescue Planning and Equipment. Shall be in according to the NWCG Standards for Air tanker Base Operations (SABO). The base's Aviation Mishap Response Guide is located about the timekeeper's computer console

1. **Local Incident/Accident Action Plan.** The local plan will be as described in the Rocky Mountain Region Safety and Management Plan and FSM 5720. Crash Rescue procedures for accidents occurring within the local I/A area, away from the Jefferson County Airport, are described in the Forest/Unit/Incident/ Aviation Mishap Response guide. Copies of these plans shall be made available upon request.

E. Hazard, Incident, and Accident Reporting. Hazard, Incident, and Accident Reporting shall be in accordance with the NWCG Standards for Air tanker Base Operations (SABO) as outlined in FSM 5720. The form to be used is the USDA/USDI SAFECOM, FS 5700-14 (OAS-34). SAFECOMS may be reported and sent on-line at the following web address:

www.aviation.fs.fed.us (Click on SAFECOM Icon, for all incidents)

1. Local Procedures. It is the responsibility of any individual who observes or who is involved in an aviation incident or accident to report the occurrence at time of incident, as a “heads up” to the Forest Aviation Officer. A hard copy or electronic copy of a SAFECOM should follow within 48 hrs. Circumstances of the Hazard, Incident, and Maintenance Deficiency should be discussed with the pilot, if possible, and the form initiated, the pilot has the responsibility to report the incident on the SAFECOM form.

2. Routing. The form should be sent to the Forest Aviation Officer for subsequent distribution to the Regional Aviation Safety Officer.

F. Proficiency Flights. Proficiency flights shall be in accordance with Chapter V, V.G.1, Proficiency Flights, Interagency Airtanker Base Operations Guide, and Section J., Exhibit 9, Proficiency Guideline Checklist, National Airtanker Contract.

G. Dropping On or Near Congested Areas. Shall be in accordance with Chapter V, V.H., Dropping On or Near Congested Areas, Interagency Airtanker Base Operations Guide and Chapter II, II.J.1. (a-c), Congested Area, Interagency Airspace Coordination Guide, Appendix 3, Text of FAR Part 91.119 and USDA/DOI of FAR Part 91.119, 5714.11, Grant of Exemption No. 392, and Appendix 3, Text of FAR Part 91.119 and USDA/DOI Exemptions to 91.119, USDI Guidance on Exemption 3017 from FAR 91.119 (Congested Area Operations).

1. Local Procedures. It is a local procedure, because of the growing complexity of local urban interface areas, various rural fire departments, numerous radio systems, numerous jurisdictions, local populace interference, numerous aircraft, etc., to order a lead plane with every air tanker order. As the complexity grows or as determined by the air tanker coordinator (Lead plane Pilot), an Air Tactical Group Supervisor (ATGS) will be assigned.

H. Landing with Full or Partial Load. Landing with a full or partial load operations shall be in accordance with, Section C, C.7.2. (3) (C), Takeoff and Landing, National Airtanker Contract, and Load bearing weights/agreements with the Rocky Mountain Metro Airport Authority.

1. Local Contract Specifications. Air tankers shall land with their contracted load Onboard unless legal landing weight or airport limits will be exceeded. If there is an emergency or when adverse conditions make safe landing uncertain, the pilot is allowed to drop the load. Landing loaded is not allowed at Jeffco due to weight bearing restrictions limits.

PART VII: AirNet Base Units, Dispatch Centers, Initial Attack Frequency Map.

1. AirNet/Airguard Units and Dispatch Centers: Within region 2 there are 10 communication centers. These centers monitor national FF and Guard for all aircraft in transitioning their area of operations.

Colorado Centers:

FTC- Fort Collins Interagency Dispatch Center
 PBC- Pueblo Interagency Dispatch Center
 CRC- Craig Interagency Dispatch Center
 GJC- Grand Junction Interagency Dispatch Center
 MTC- Montrose Interagency Dispatch Center

Wyoming Centers:

CDC- Cody Interagency Dispatch Center
 CPC- Casper Interagency Dispatch Center

South Dakota/Nebraska: GPC- Great Plains Interagency Dispatch Center

(See Dispatch or Pilot/Aircrew Orientation Guide for Frequency Map)

Exhibit 1

Jeffco Airtanker Base
Telephone list

Airtanker Base Personnel:

Scott Headrick Base Manager.....(720) 887-4769
Cell.....(720)-209-2303
Colin Wassink Asst. Manager.....(303) 439-0332
Cell.....
Base Cell Phone.....(970) 218-1845
Base Operations.....(303) 439-0332

Arapaho Roosevelt Fire Management:

Bryan Karchut, ARF FMO.....(970) 295-6631
 Cell.....(970) 821-5434
Paul Cerda, ARF AFMO.....(970) 295-6647
 Cell.....(970) 829-7261
Tracy Stull, ARF FAO.....(970) 295-6664
 Cell.....(208) 709-7051

Metro Airport Personnel:

Airport Manager, Paul Anslow.....(303) 271-4851
 Jeffco Operations Manager, Brian Bishop.....(303) 271-4861
 Jeffco FAA Tower, Shirl Burton Mgr(720) 633-8601
 Operations.....(720) 633-8610

Denver Center Approach.....(303) 432-1590
 (303) 342-1916

Phoscheck LLC, Retardant Contractor:

Bernie Post, phoscheck Rep.....(719) 539-3557 home
 (970) 222-8698 Cell

Main Office (Orland,CA).....(909) 983-0772
 (ask for fire duty person)

Ordering/Shipping 24 hr (Blackfoot, ID).....(800) 682 - 3636

**Jeffco Air tanker Base
Simultaneous Loading and Fueling Plan
2019
(Exhibit 3)**

I. Purpose:

This Supplement is prepared by the Jeffco Air tanker Base Staff in order to conduct simultaneously fuel and loading procedures in a safe and efficient manner as specified by the NWCG Standards for Air tanker Base Operations (SABO) and the Interagency Single Engine Air tanker Operations Guide (ISOG). The ability to simultaneously fuel and load approved aircraft will allow load and return times to be reduced from 30mins to 15mins on average and reduce unnecessary repositioning costs incurred to the government.

II. Authority:

All air tanker operations will be conducted within the guidelines as established by the SABO and the ISOG, contracts and established aircraft and base operational plans. A list of those aids follows elsewhere in this plan.

III. Distribution:

A copy of this plan will be provided to all airtanker base personnel and the fueling vendor. All personnel involved in the simultaneous loading and fueling of airtankers will have read this plan and completed the training requirements set forth in it.

IV. Risk Assessment:

A risk assessment has been completed by the individual airtanker contractors and submitted to the Contracting Officer and reviewed by the National Airtanker Program Manager and the Branch Chief, Aviation Safety. A test was conducted by San Dimas Technology and Development Center in 2013 to test the static electricity output of the retardant loading hose while filling an airtanker with retardant. The test showed that there was a less than 0 ohms of static build up when loading retardant at 400 GpM. This data demonstrates there is no potential for static electricity buildup or an accidental ignition from the loading hose. The simultaneous loading and fueling operation is no more dangerous than the independent fueling operations when done correctly. The Aircraft Rescue Truck (ARF) will be at the airfield available during simultaneous loading and fueling operations,

c. Parking Tender (FWPT)

The Fixed Wing Parking Tender (FWPT) reports to the Ramp Manager and directs all movement within their assigned area; of aircraft, vehicles and personnel. The FWPT observes loading and fueling procedures, monitors restrictions for each aircraft and supervises the retardant loading crew. The FWPT is knowledgeable and proficient in the use of hand signals and radio communications. The FWPT observes and ensures the safety of retardant loading and fueling operations. He/she is proficient with the base safety and emergency procedures, the proper use of Personal Protective Equipment (PPE), fire extinguishers and spill response mobilization. The FWPT will not leave the area until all operations have ceased and everyone is clear of the aircraft.

d. Loaders

The Loaders report to the Ramp Manager and directs all movement within their assigned area of the aircraft. The loader will be knowledgeable and proficient in the use of hand signals and radio communications and be in contact with the RAMP. The Loader observes and ensures the safety of retardant loading. He/she is proficient with the base safety and emergency procedures, the proper use of Personal Protective Equipment (PPE), fire extinguishers and spill response mobilization.

e. Fuel Vendor

Signature Aviation	303-466-2336
Sheltair	303-590-9654

Ramp will maintain communication with the fueling personnel. Fueling will be done on the opposite side of the retardant loading or when on the same side of the aircraft use the wing's leading edge as a clear delineation between the two operations. The vendor personnel will ensure that all fueling operations maintain a high degree of safety. If the vendor does not understand or feel safe doing simultaneous loading and fueling the Ramp will not continue to do so until they do. A copy of this plan will give to the FBO to keep on file.

VII. Operational Procedures

a. Receiving Aircraft for Loading

1. The pilot will establish contact with the RAMP or FWPT by radio (124.475)
2. The aircraft will be directed to the appropriate loading pit
3. The ATBM will make the decision whether or not to load and fuel simultaneously

for identification: lime green for RAMP; bright orange for FWPT and Blue for loaders. Non-skid footwear will be worn at all times.

IX. Firefighting Limitations/Emergency Operations

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

X. Authorized Personnel

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

XI. Refueling Operations

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

Jeffco Air tanker Base Retardant Hot Loading Operations Plan 2019 (Exhibit 4)

Purpose:

This Supplement is prepared by the Jeffco Air tanker Base Staff in order to conduct retardant hot loading procedures in a safe and efficient manner as specified by the NWCG Standards for Air tanker Base Operations (SABO) and the Interagency Single Engine Air tanker Operations Guide (ISOG). The plan incorporates the retardant hot loading procedures as specified on page 22: Retardant Hot Loading Procedures found in the SABO, as well as information found elsewhere in media productions and hard copy issuances.

Authority:

All air tanker operations will be conducted within the guidelines as established by the SABO and the ISOG, contracts and established aircraft and base operational plans. A list of those aids follows elsewhere in this plan.

Distribution:

A copy of this plan will be provided to all air tanker base personnel at the beginning of each season. In addition, a copy of this plan should be made available to aviation managers and cooperators who request it.

Risk Assessment:

Each contractors risk assessment for conducting hot loading operations must be reviewed by all air tanker base personnel prior to operations. The base will keep each air tanker contractor's risk assessment on file

Required Training:

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

1. Review of the *NWCG Standards for Air tanker Base Operations (SABO)*
2. Must have completed the Fixed Wing Parking Tender course on Interagency Aviation Training website. (iat.gov)
3. Review of the *SEAT operations as established in the Interagency Single Engine Air tanker Operations Guide (ISOG)*
4. *A review of ramp operations with ATBM or Asst. ATBM prior to performing independently under actual fire situations.*

All training will be documented and placed in the employee training folder.

SEAT Support Personnel

The SEAT Support Personnel are responsible to review and monitor the loading procedures as established and provide necessary input to ensure the proper loading of the SEAT. 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. The SEAT Support Personnel at BJC can assist the Retardant Crewmembers when needed.

Ramp and Pit Set Up

There are 2 loading pits at Jeffco Air tanker Base. The base utilizes a single manifold and one MicroMotion meter. Therefore, Jeffco can only load one aircraft at a time.

Flight crews are encouraged to contact the base as soon as possible on return to the base. Crews should inform the base of load and return status and if they will require fuel. Upon landing the RAMP will contact the flight crew over the ramp frequency and assign them a parking position. The FWPT will then supervise the movement of the aircraft and marshal the aircraft to the appropriate pit.

Water stanchions are provided for water loading when necessary. Additionally a 5,000 gallon off-load tank is available when needed, to remove retardant from an aircraft.

Operational Procedures

Receiving Aircraft for Loading

1. The pilot will establish contact with the RAMP by radio (124.475).
2. The aircraft will be directed to the appropriate loading pit.
3. The ATBM will make the decision whether or not to Hot Load.

Initial Arrival

Upon initial arrival into the air tanker base, the pilot will shut down and participate in a complete briefing with the designated air tanker base personnel and retardant crew. The flight crew will brief ground personnel on procedures, equipment and will explain loading limitations specific to that aircraft. 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 SEAT's
- 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) with the pilot and SEAT Support Personnel

After the initial trip and briefing, the air tanker may participate in hot loading operations. Upon reaching the pit, pilots will reduce engine RPM to "ground idle". In addition, for Larger Air tanker operations the flight crew will shut down the engines on the side that will be utilized for loading and will reduce the opposite side engines to ground idle.

aircraft and the specific gravity of the mix. All airtankers must have a visual indicator which is capable of being monitored by the pilot, or loading crew and must be utilized in addition to the flow meters to prevent over loading.

Communications

Aircraft will remain in communication with designated ramp and pit 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. The ramp frequency is VHF 124.475.

Authorized Personnel

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

Refueling Operations

All refueling operations are the sole responsibility of the vendor and **will not** be performed by government personnel. Fueling operations will be conducted in a secure area, without presenting undue hazards to the other aircraft or personnel. Aircraft will be refueled in a designated area as indicated by the RAMP. Aircraft can be fueled in the loading pits; however, **not** simultaneously while hot loading retardant. All fueling procedures will be conducted within the guidelines established in the SABO, ISOG and perspective contracts. During large operations involving other aircraft, an area on the southwest corner of the air tanker base can be designated for hot fueling of SEAT aircraft. SEAT fuel tenders can be placed there with sufficient room to allow other aircraft operations to continue.

Appendix 2

LAT/SEAT Hotloading Risk Assessment

Assessment and Mitigation of: Hot Loading

Large Airtanker Operations

Large Airtanker System

Sub-system	Hazards	Pre Mitigation			Mitigation	Post Mitigation					
		Likelihood	Severity	Outcome		Likelihood	Severity	Outcome	Mitigation Achieved ?	Additional Local Mitigation	Post Mitigation Value
Hot Loading	Training on aircraft/ramp safety and loading procedures. Differing training among Contract and Agency personnel.	Frequent	Critical	High	All personnel involved in loading operations should be trained to understand aircraft safety, and receive a safety orientation. Procedures for hot loading should be briefed by all personnel, and anytime new personnel are introduced to the operation or a new aircraft arrives. Briefing and training should include proper hand signal use, Radio use, loading hose valve aircraft loading port valve operation, and aircraft load light system.	Remote	Negligible	Low			
	Personnel working around running Aircraft Propellers and Jet Engines	Frequent	Catastrophic	High	<p>A) Only trained and authorized personnel in ramp and aircraft safety should be working near or on the Ramp operations area. The Ramp will be managed at all times. B) All ramp personnel will be required to wear the appropriate color vest while working on the ramp. C) The Pilot will stop the aircraft and will shut down the loading side engines and put opposite side engines at idle and lock the brakes. Personnel will remain in an identified safety area until the Aircraft comes to a full stop in the loading pit before approaching the aircraft to load, personnel should be cleared in by the FWPT/RAMP. D) Personnel shall stay behind the Aircraft wing while loading retardant (Or in front of the wing for the MD87). Personnel Need remain on loading side of Fuselage. E) Pilot will remain at the controls during hot loading operations. F) FWPT will remain in front of the Aircraft and monitor entire loading process. G) Ramp Manager/FWPT/Pilot will ensure the area and personnel are clear and at a safe area before the aircraft departs loading pit. H) Ramp Manager/FWPT and Pilot will remain in Radio communication during hot loading, any concerns or hazards will be communicated. If radio communication is lost then hot loading will cease until radio communication is reestablished I) If Operations need to be shut down communicate to the FWPT/RAMP/RTCM/Pilot/MXMS utilizing standard hand signal as well as over Ramp Frequency.</p>	Frequent	Catastrophic	Serious			

Hot Loading

<p>Unauthorized personnel, vehicle traffic, or animals entering ramp operations area</p>	<p>Distracted Personnel/Pilot/Crew CRM</p>	<p>Occasional</p>	<p>Catastrophic</p>	High	<p>A) The Ramp Operations area will be managed and monitored at all times. B) No unauthorized personnel will be allowed on the ramp while aircraft is running. C) Ramp operations area clearly marked as authorized personnel only. D) Any concern or hazard will be communicated. E) If operations need to be shut down communicate to the FWPT/RAMP/RTCM/Pilot/MXMS utilizing standard hand signal as well as over Ramp Frequency.</p>	Remote	Catastrophic	Serious
				Medium		Remote	Critical	Medium
				Low		Occasional	Negligible	Low
				Low		Occasional	Negligible	Low
				Low		Occasional	Negligible	Low
<p>Blowing Exhaust and Fumes</p>		<p>Frequent</p>	<p>Marginal</p>	Serious	<p>A) Personnel briefed in location of exhaust and trained in aircraft safety. B) Stay as clear as possible away, never step in front of the wing while aircraft is running. C) Wear approved eye protection. D) Take breaks and remove yourself into fresh air often.</p>	Occasional	Negligible	Low
				Serious		Occasional	Negligible	Low
				Serious		Occasional	Negligible	Low
<p>Blowing Debris</p>		<p>Frequent</p>	<p>Marginal</p>	Serious	<p>A) Personnel shall wear approved eye protection while working in ramp operations. B) Ensure personnel are active in FOD control and secure any loose personal items, or items on the ramp that can become a hazard.</p>	Occasional	Negligible	Low
				Serious		Occasional	Negligible	Low
<p>Turbine Noise</p>		<p>Frequent</p>	<p>Marginal</p>	Serious	<p>A) Personnel shall wear approved hearing protection while working in ramp operations. B) Participate in local hearing conservation and testing.</p>	Occasional	Negligible	Low
				Serious		Occasional	Negligible	Low

Hot Loading	Prop wash/Jet Blast	Probable	Marginal	Serious	A) Personnel should be briefed and trained in aircraft safety. B) Never chase blown or stray items on the ramp while aircraft is running. C) Keep items tucked in or secured. D) Maintain situational awareness and beware of when aircraft is turning or moving forward. E) Secure footing or stance and wear eye protection.	Occasional	Negligible	Low		
	Fatigue/Heat Stress	Probable	Critical	High	A) Request additional staffing or Pilot during times of high fire activity. B) Utilize Best Staffing Practices. C) Recognize signs of heat exhaustion or heat stress. D) Take breaks often, stay hydrated, ensure adequate facilities and supplies are available. E) Pilot and Personnel will communicate concerns or issues to the ATBM.	Remote	Negligible	Low		

Hot Loading

<p>Unauthorized personnel, vehicle traffic, or animals entering ramp operations area</p> <p>Distracted Personnel/Pilot/Crew CRM</p> <p>Blowing Exhaust and Fumes</p> <p>Blowing Debris</p> <p>Turbine Noise</p>	Occasional	Catastrophic	High	<p>A) The Ramp Operations area will be managed and monitored at all times. B) No unauthorized personnel will be allowed on the ramp while aircraft is running. C) Ramp operations area clearly marked as authorized personnel only. D) Any concern or hazard will be communicated. E) If operations need to be shut down communicate to the FWPT/RAMP/ATBM/SEMG/RTCM/Pilot/MXMS utilizing standard hand signal as well as over Ramp Frequency.</p>	Remote	Catastrophic	Serious
	Occasional	Critical	Serious	<p>A) All Personnel involved in Hot-loading operations will remain focused on the task and their identified role. B) Maintain situational awareness. C) Do not distract others from what they are doing. D) Communications should be kept to only those essential to the task. E) Utilize hand signals to communicate gallons being loaded into aircraft (at a minimum); Pilot requests gallons over radio. Pilot signals to RTCM (at 200 gallons, 500 gallons, Arm up (or right angle) at 100 gallons before shut off, slow motion down for shut off). If there are differing signals for base operations ensure personnel are briefed. F) RTCM loading the aircraft will also motion or relay these signals as they happen so as the MXMS and other personnel can be kept updated on what the situation (aircraft window may be open or closed). G) If Operations need to be shut down communicate to the FWPT/RAMP/RTCM/SEMG/ATBM/Pilot/MXMS utilizing standard hand signal as well as over Ramp Frequency.</p>	Remote	Critical	Medium
	Frequent	Marginal	Serious	<p>A) Personnel briefed in location of exhaust and trained in aircraft safety. B) Stay as clear as possible away, never step in front of the wing while aircraft is running. C) Wear approved eye protection. D) Take breaks and remove yourself into fresh air often.</p>	Occasional	Negligible	Low
	Frequent	Marginal	Serious	<p>A) Personnel shall wear approved eye protection while working in ramp operations. B) Ensure personnel are active in FOD control and secure any loose personal items, or items on the ramp that can become a hazard.</p>	Occasional	Negligible	Low
	Frequent	Marginal	Serious	<p>A) Personnel shall wear approved hearing protection while working in ramp operations. B) Participate in local hearing conservation and testing.</p>	Occasional	Negligible	Low

Assessment and Mitigation of: Hot Loading

SEAT Operations

SEAT System

Sub-system	Hazards	Pre Mitigation			Mitigation	Post Mitigation					
		Likelihood	Severity	Outcome		Likelihood	Severity	Outcome	Mitigation Achieved ?	Additional Local Mitigation	Post Mitigation Value
Hot Loading	Training on aircraft/ramp safety and loading procedures. Differing training among Contract and Agency personnel.	Frequent	Critical	High	All personnel involved in loading operations should be trained to understand aircraft safety, and receive a safety orientation. Procedures for hot loading should be briefed by all personnel, and anytime new personnel are introduced to the operation or a new aircraft arrives. Briefing and training should include proper hand signal use, loading hose valve and aircraft loading port valve operation.	Remote	Negligible	Low			
	Personnel working around running Aircraft Propellers/Engines	Frequent	Catastrophic	High	C) A) Only trained and authorized personnel in ramp and aircraft safety should be working near or on the Ramp operations area. The Ramp will be managed at all times. B) All ramp personnel will be required to wear the appropriate color vest while working on the ramp. C) The Pilot will stop the aircraft and will put the engine at idle and lock the brakes. Personnel will remain in an identified safety area until the Aircraft comes to a full stop in the loading pit before approaching the aircraft to load, personnel should be cleared in by the FWPT/RAMP/SEMG . D) Personnel shall stay behind the Aircraft wing while loading retardant.). Personnel need remain on loading side of Fuselage. E) Pilot will remain at the controls during hot loading operations. F) FWPT will remain in front of the Aircraft and monitor entire loading process. G) RAMP/FWPT/SEMG/Pilot will ensure the area and personnel are clear and at a safe area before the aircraft departs loading pit. H) RAMP/FWPT/SEMG and Pilot will remain in Radio communication during hot loading, any concerns or hazards will be communicated. If radio communication is lost then hot loading will cease until radio communication is reestablished I) If Operations need to be shut down communicate to the FWPT/RAMP/RTCM/Pilot/MXMS/SEMG utilizing standard hand signal as well as over Ramp Frequency.	Frequent	Catastrophic	Frequent			

Hot Loading		Probable	Marginal	Serious	Occasional	Negligible	Low		
Prop wash									
Fatigue/Heat Stress		Probable	Critical	High	Remote	Negligible	Low		

A) Personnel should be briefed and trained in aircraft safety. **B)** Never chase blown or stray items on the ramp while aircraft is running. **C)** Keep items tucked in or secured. **D)** Maintain situational awareness and beware of when aircraft is turning or moving forward. **E)** Secure footing or stance and wear eye protection.

A) Request additional staffing or Pilot during times of high fire activity. **B)** Utilize SEAT Base Best Staffing Practices. **C)** Recognize signs of heat exhaustion or heat stress. **D)** Take breaks often, stay hydrated, ensure adequate facilities and supplies are available. **E)** Pilot and Personnel will communicate concerns or issues to the **SEMG/ATBM**.

Risk Assessment Matrix				
	Severity			
Likelihood	IV Negligible	III Marginal	II Critical	I Catastrophic
Frequent A			4	
Probable B		3		High
Occasional C		2	Serious	
Remote D	1	Medium		
Improbable E	LOW			

Risk Level	Appropriate Management Level for Risk Decisions	
	Fire	Project
High	Incident Commander or Operations Section Chief	Line Manager
Serious	Incident Commander or Operations Section Chief	Line manager
Medium	Air Operations Branch Chief	Project Aviation Manager
Low	Helibase Manager	Helicopter or Flight Manager

Definitions

Likelihood

Frequent - Likely to occur often. Continuously experienced.

Probable - Will occur several times. Will occur often.

Occasional - Likely to occur sometime. Will occur several times.

Remote - Unlikely to occur. Unlikely but can reasonably be expected to occur.

Improbable - So unlikely, it can be assumed it will not occur. Unlikely to occur, but possible.

Severity

Negligible - Less than minor injury and/or less than minor system damage.

Marginal - Minor injury and/or minor system damage.

Critical - Severe injury and/or major system damage.

Catastrophic - Results in fatalities and/or loss of the system.

Appendix 4

Overweight Agreement



ROCKY MOUNTAIN

April 1, 2019

Arapaho and Roosevelt NF
Jeffco Airtanker Base
10900 W 120th Ave. Bldg. D
Broomfield, CO 80021

Mr. Headrick,

Please accept this letter as authorization to operate aircraft for firefighting and support up to 155,000lbs on runway 12L/30R, Taxiway A, and related connectors here at KBJC. It has been determined through a pavement design check that aircraft operating at 155,000 lbs. does not impact the pavement design, as long as there are not more than 250 cycles annually. If it is determined that additional operations need to take place, exceeding 250 cycles, airport management should be contacted immediately for additional permission. The west GA concrete ramp should be used for any additional staging of overweight aircraft. If it is determined that additional staging will be necessary Signature Flight Support should be contacted at 303-466-2336, for aircraft fueling and support. I acknowledge with this authorization you will be operating your aircraft on taxiways and runways with weights that exceed published weight limitations.

If you have any questions, please feel free to contact me at 303-271-4861.

Sincerely,

R. Brian Bishop
Airport Deputy Director – Operations and Maintenance
Rocky Mountain Metropolitan Airport

Cc: Paul Anslow, Airport Director
Chris Nicholas, Airport Operations Supervisor
Andrew Nerz, Airport Operations, Senior
Kevin Mackay, Airport Operations, Senior