

**DEPARTMENT OF FORESTRY AND FIRE PROTECTION**

Aviation Management Unit  
5500 Price Avenue  
Mc Clellan, CA 95652  
(916) 561-3333  
Website: [www.fire.ca.gov](http://www.fire.ca.gov)



Dear Operator:

The California Department of Forestry and Fire Protection (CAL FIRE) is currently soliciting Call-When-Needed (CWN) emergency fire airplane services from commercial airplane operators. Once approved and established in the state directory, these aircraft can be called on to assist CAL FIRE in mitigating fire incidents throughout California.

If you are still waiting for 2024 interagency aircraft/pilot carding but still have a current CAL FIRE CWN agreement, we encourage waiting until that process is complete before submitting your packet. We are granting agreement extensions on a case-by-case basis (with current aircraft and pilot cards, insurance, etc.) for those who need additional time and would like to get their CAL FIRE CWN agreement renewal date aligned with your annually scheduled interagency aircraft and pilot carding.

Please note, we are processing these agreements electronically with digital signatures all done in DocuSign. All packets and required attachments should be submitted in the DocuSign solicitation. Instructions are following this letter.

The required content will be familiar for operators re-applying with aircraft and pilots who are currently Interagency carded. For any operator with aircraft or pilot(s) that requires carding, please see the included carding instructions.

2024 items to note:

- Contract Aerial Resource Standards (CARS)
- Pilot carding and signing off on the CARS will be available by power form link that you will send to each of your pilots. Their filled-out forms will come directly to us.
- We are requesting you provide us with your pilot roster with your submission in Excel format.
- Discontinuing taking action of insurance documents mailed to us from your insurance company. We will only update insurance when emailed by your company.
- Replacing DUNS number with UEI (Unique Entity ID). Operators can obtain a UEI at <https://sam.gov/>.

Once a CWN packet has been reviewed, properly completed, and approved, you will receive an email directly from Aviation Management notifying you of your executed contract and that you've been updated in HEMS. CAL FIRE cannot order, dispatch or pay for a CWN aircraft unless that resources are listed and current in that directory. Please keep in mind that factors used in prioritizing operators are avionics capability, price, location, and response time. In the State of California preference is also given to certified DVBE and small businesses.

Once received, the following items must be placed in each aircraft:

- a. CURRENT Interagency Aircraft Data Card.
- b. Approved COPY of FC107, CAL FIRE Lease Agreement. (Without this document, payments may be delayed.)
- c. Several blank FC115, Intermittent Use Aircraft Pre-Hire Information forms.
- d. Ensure pilot has CURRENT pilot card with him/her.

This is important because, as a reminder, approved agency operators are required to advise Aviation Management if an aircraft arrives at an incident without the required "Interagency" approval card(s). The aircraft and pilot cannot be placed into service until properly carded, and the aircraft will likely be released from the incident without payment.

Even though your Agreement will be good for a year, please note that your insurance Pilot Card(s) and/or Aircraft Data Card(s) may expire before that. We must have your renewal insurance certificate Pilot Cards(s), and renewed Aircraft Data Card(s) by that date to avoid lapse in your dispatch status. Please email updated documents to [RW.CWN.Management@fire.ca.gov](mailto:RW.CWN.Management@fire.ca.gov). We have discontinued updating insurance from letters mailed to us automatically from insurance companies. The insurance must be emailed by your company.

Finally, this agreement cannot be considered binding on either party until approved by appropriate authorized state agencies. No services should be provided prior to approval, as the State is not obligated to make any payments on any agreement prior to final approval. Therefore, expeditious handling of the Agreement is appreciated.

For any additional questions, please contact:

California Department of Forestry and Fire Protection  
Aviation Management Unit  
5500 Price Avenue  
McClellan, CA 95652  
Attn: Ben Berman, Helicopter Program Manager  
[RW.CWN.Management@fire.ca.gov](mailto:RW.CWN.Management@fire.ca.gov)

The following is included:

1. CAL FIRE Call-When-Needed solicitation letter (2 pages)
2. CWN DocuSign Instructions (5 pages)
3. FC-107RW, Lease Agreement for the Intermittent Use of Aircraft (2 pages) (2 Additional FC-107RW forms are provided for additional aircraft.) (2 pages)
4. Appendix A, Intermittent Requirements Agreement; Exhibit C, General Terms and Conditions 04/2017; Exhibit D, General & Special Terms and Conditions; and Exhibit E, Additional Provisions (14 pages)
5. Packet Checklist (2 pages)
6. STD 204, State of California Payee Data Record (2 pages) and STD 205 Payee Data Record Supplement (2 pages) (Important Note: The mailing address entered here should be the physical address that payment is sent to. The envelopes sent will not be forwarded, they will be returned to the state controller if they are not valid mailing addresses).
7. CAL FIRE-20 (& 720 only if needed) and CCC-04/2017 forms. Contractor Certification Clauses (9 pages total)
8. FC-115, Intermittent Use Aircraft Pre-Hire Information (2 pages)
9. Contract Aerial Resource Standards, version 2 (CARS) (143 pages)
10. Contract Aerial Resource Standards Agreement Letter (Authorized Management Representative and all Pilots must sign this form and return) (1 page)

State of California

Department of Forestry and Fire Protection (CAL FIRE)

**LEASE AGREEMENT FOR THE INTERMITTENT USE OF AIRCRAFT**

FC-107RW (Rev. 04/18)

***PLACE AN APPROVED COPY IN EACH HELICOPTER***  
**FAILURE TO DO SO MAY RESULT IN LOSS OF PAYMENT**  
**AND IMMEDIATE RELEASE FROM INCIDENT**

Name and Address of Operator: San Bernardino County Sheriff's Aviation Unit		Phone Number (day): 909-252-4100
199 N. Hangar Way, San Bernardino, CA 92415		Phone Number (night): 909-252-4100
Agreement Number:	Vendor or Supplier ID Number: 826000-25	California Small or DVBE Business Certificate Number: NA

**AIRCRAFT SPECIFICATIONS AND RATES**

ICS Type	Agency Card	Aircraft Make & Model	FAA Reg. Number	Passenger Seats	Cargo Weight	Bucket/Tank Gal.	Foam Y/N	Rate w/Pilot	Standby Rate	Aircraft Location (State)
II	USFS	Bell UH1H+	N306SB	9	3000	320	N	\$3,213.00	3 Hrs	CA
II	USFS	Bell 212	N307SB	9	3000	380	N	\$3,302.00	3 Hrs	CA
III	USFS	AS350 B3E	N831SB	5	2000	180	N	\$1,983.00	2 Hrs	CA
III	USFS	AS350 B3E	N832SB	5	2000	180	N	\$1,983.00	2 Hrs	CA
III	USFS	AS350 B3E	N833SB	5	2000	180	N	\$1,983.00	2 Hrs	CA
III	USFS	AS350 B3E	N834SB	5	2000	180	N	\$1,983.00	2Hrs	CA
III	USFS	AS350 B3E	N835SB	5	2000	180	N	\$1,983.00	2 Hrs	CA

**ADDITIONAL CHARGES**

ITEM	Per Diem Per Person	Extended Standby	Fuel Truck Capacity	Fuel Truck USFS Rate	Foam Concentrate	FLIR			
RATES	N/A	\$50	1500 Gal	USFS Rate /mile	Operator's Cost + 10%	\$400/Day	1.25/Mile		

EMAIL ADDRESS: joanderson@sbcscd.org

UEI #:

Remarks:

Flexible pool: \$200/setup. I/R Downlink is available at the A/C rate plus \$139.69/hr for downlink operator.

Day/Night hoist available.

The undersigned agrees to furnish to the California Department of Forestry and Fire Protection (CAL FIRE) in accordance with the attached Intermittent Requirements Agreement, Appendix A, signed and dated \_\_\_\_\_, the aircraft described hereon at the designated rates, to the extent that he/she is willing and able. The Operator/Contractor further certifies that they have received a copy of these specifications and will comply with them to the extent that they are legally able. A discount of \_\_\_\_\_% is offered by the undersigned if the State pays for any services rendered within \_\_\_\_\_ days of the date that the State receives the vendor's invoice. This agreement is valid for a period of one year from the date signed by a State Authorized Inspector unless canceled by either party in writing on a prior date.

Signature of Operator/Contractor:

Title:

Date:

**APPROVED FOR USE**

Signature of State Authorized Inspector

Title:

Date:

**FC-107RW INSTRUCTIONS****ENTRIES**

1. NAME/ADDRESS - Operator's name and mailing address.
2. PHONE NUMBER - Operator's day time and emergency night phone number.
3. AGREEMENT NUMBER – CAL FIRE use only.
4. VENDOR or Supplier ID Number – Enter it if you know it. Otherwise leave blank.
5. CALIFORNIA CERTIFIED SMALL BUSINESS/DVBE – Enter your current number.
6. ICS TYPE - I, II, III.
7. AGENCY CARD - Indicate the agency that has issued the current aircraft data card, i.e., USFS, DOI, CAL FIRE.
8. AIRCRAFT MAKE & MODEL, FAA REG NUMBER – Self-explanatory.
9. PASSENGER SEATS - Enter number of valid passenger seats, not including pilot(s).  
Enter “**R**” if aircraft is restricted category.
7. CARGO WEIGHT - Enter useful load.
8. BUCKET/TANK GALLONS - Enter bucket/tank capacity.
9. FOAM - Enter Y/N (Yes/No) for foam/retardant capability.
10. RATE W/PILOT - Includes fuel being provided by operator.
11. **STANDBY RATE** - ICS Type Helicopter: 

<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	
<b>Standby Rate (Hours):</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
13. AIRCRAFT LOCATION (STATE) - Indicate the state in which the aircraft will be located this fire season.
14. PER DIEM – Vendors are requested to incorporate their Per Diem costs for all company employees on the incident into their Hourly and Standby aircraft rates. CAL FIRE will no longer pay Per Diem for Helicopter Vendors as a separate rate.
15. EXTENDED STANDBY - Current CAL FIRE rate for each person for each hour beyond normal duty day (nine hours). (Note: This \$50 rate is effective for 2020.)
16. FUEL TRUCK GALLONS - State size of fuel truck offered. Additional fuel trucks may be added as additional ITEMS.
17. FUEL TRUCK USFS RATE - Current USFS rate for size fuel truck offered. NOTE: "USFS Rate" has been pre-entered on the form.
18. FOAM CONCENTRATE - Operator's purchase price plus 10% handling fee.
19. ADDITIONAL ITEMS - Space is provided for additional miscellaneous equipment.
20. EMAIL ADDRESS/DUNS #/REMARKS – Enter current, valid email address and DUNS #. If you are a CA Certified Small Business or California Certified Disabled Veteran Business Enterprise, so indicate by placing your stamp in the remarks section. You must include the date of current certification. Enter other remarks as needed.
21. DISCOUNT RATE – Self-explanatory.
22. Attach the signature page of Appendix A, Call-When-Needed Helicopter Requirements Agreement, to this Agreement. Enter date of Appendix A on this Agreement.

**OPERATOR'S INSTRUCTIONS**

1. If aircraft have been approved by another agency, complete this agreement and attach copies of all aircraft data cards and pilot approval cards issued by that agency. Submit documents to a CAL FIRE inspector pilot. If CAL FIRE issues the card, the inspector pilot will approve this agreement
2. **PLACE A COPY OF THIS APPROVED AGREEMENT IN EACH AIRCRAFT ALONG WITH THE DATA CARD. FAILURE TO DO SO MAY RESULT IN RELEASE FROM THE INCIDENT AND/OR LOSS OR SUBSTANTIAL DELAY OF PAYMENT.**

State of California  
 Department of Forestry and Fire Protection (CAL FIRE)

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FC-107RW (Rev. 04/18)

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Name and Address of Operator: San Bernardino County Sheriff's Aviation Unit		Phone Number (day): 909-252-4100
199 N. Hangar Way, San Bernardino, CA 92415		Phone Number (night): 909-252-4100
Agreement Number:	Vendor or Supplier ID Number: 826000-25	California Small or DVBE Business Certificate Number:

**AIRCRAFT SPECIFICATIONS AND RATES**

ICS Type	Agency Card	Aircraft Make & Model	FAA Reg. Number	Passenger Seats	Cargo Weight	Bucket/Tank Gal.	Foam Y/N	Rate w/Pilot	Standby Rate	Aircraft Location (State)
III	USFS	AS350 B3E	N836SB	5	2000	180	N	\$1,983.00	2 Hrs	CA
III	USFS	AS350 B3	N631SB	5	2000	180	N	\$1,983.00	2 Hrs	CA

**ADDITIONAL CHARGES**

ITEM	Per Diem Per Person	Extended Standby	Fuel Truck Capacity	Fuel Truck USFS Rate	Foam Concentrate	FLIR			
RATES	N/A	\$50	1500 Gal	USFS Rate /mile	Operator's Cost + 10%	\$400/Day	125/Mile		

EMAIL ADDRESS: joanderson@sbcscd.org

UEI #:

Remarks:

Flexible pool: \$200/setup. I/R Downlink is available at the A/C rate plus \$139.69/hr for downlink operator.  
 Day/Night hoist available.

The undersigned agrees to furnish to the California Department of Forestry and Fire Protection (CAL FIRE) in accordance with the attached Intermittent Requirements Agreement, Appendix A, signed and dated \_\_\_\_\_, the aircraft described hereon at the designated rates, to the extent that he/she is willing and able. The Operator/Contractor further certifies that they have received a copy of these specifications and will comply with them to the extent that they are legally able. A discount of \_\_\_\_\_% is offered by the undersigned if the State pays for any services rendered within \_\_\_\_\_ days of the date that the State receives the vendor's invoice. This agreement is valid for a period of one year from the date signed by a State Authorized Inspector unless canceled by either party in writing on a prior date.

Signature of Operator/Contractor:	Title:	Date:
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**APPROVED FOR USE**

Signature of State Authorized Inspector	Title:	Date:
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State of California  
 Department of Forestry and Fire Protection (CAL FIRE)

**LEASE AGREEMENT FOR THE INTERMITTENT USE OF AIRCRAFT**

FC-107RW (Rev. 04/18)

**PLACE AN APPROVED COPY IN EACH HELICOPTER**

**FAILURE TO DO SO MAY RESULT IN LOSS OF PAYMENT  
 AND IMMEDIATE RELEASE FROM INCIDENT**

Name and Address of Operator: San Bernardino County Sheriff's Aviation Unit		Phone Number (day):
		Phone Number (night):
Agreement Number:	Vendor or Supplier ID Number:	California Small or DVBE Business Certificate Number:

**AIRCRAFT SPECIFICATIONS AND RATES**

ICS Type	Agency Card	Aircraft Make & Model	FAA Reg. Number	Passenger Seats	Cargo Weight	Bucket/Tank Gal.	Foam Y/N	Rate w/Pilot	Standby Rate	Aircraft Location (State)

**ADDITIONAL CHARGES**

ITEM	Per Diem Per Person	Extended Standby	Fuel Truck Capacity	Fuel Truck USFS Rate	Foam Concentrate				
RATES	N/A	\$50	Gal	USFS Rate /mile	Operator's Cost + 10%				

EMAIL ADDRESS: joanderson@sbcasd.org      UEI #:      Remarks:

The undersigned agrees to furnish to the California Department of Forestry and Fire Protection (CAL FIRE) in accordance with the attached Intermittent Requirements Agreement, Appendix A, signed and dated \_\_\_\_\_, the aircraft described hereon at the designated rates, to the extent that he/she is willing and able. The Operator/Contractor further certifies that they have received a copy of these specifications and will comply with them to the extent that they are legally able. A discount of \_\_\_\_\_% is offered by the undersigned if the State pays for any services rendered within \_\_\_\_\_ days of the date that the State receives the vendor's invoice. This agreement is valid for a period of one year from the date signed by a State Authorized Inspector unless canceled by either party in writing on a prior date.

Signature of Operator/Contractor:	Title:	Date:
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**APPROVED FOR USE**

Signature of State Authorized Inspector	Title:	Date:
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**DEPARTMENT OF FORESTRY AND FIRE PROTECTION**

Aviation Management Unit  
 5500 Price Avenue  
 Mc Clellan, CA 95652  
 (916) 561-3333  
 Website: [www.fire.ca.gov](http://www.fire.ca.gov)



Initial or N/A	Items to be Completed								
	FC-107RW: Please read and comply with the instructions on page 2 of the FC-107RW document. signed by an authorized company representative at the bottom page of the FC 107 and return for further processing. The date the CAL FIRE Aviation Officer signs the signature blank of this document will determine when your Agreement expires <b>(one year from the date signed by CAL FIRE)</b> .								
	When possible, CAL FIRE will give preference to California Certified Small or DVBE businesses. If current, enter your Small or DVBE number in this blank. Make sure you use your SB stamp (if applicable) and date of expiration of your SB or DVBE certification in the REMARKS section of the FC-107RW form. <b>Failure to enter your SB or DVBE expiration date in the remarks section may result in your SB/DVBE status not being considered.</b> Please add a valid email address in the appropriate blank.								
	CAL FIRE is requesting you submit your daily “Hourly” and/or “Standby Rate” to include all per diem (lodging and meals) pay for your crews.  Example: <table border="1" data-bbox="358 993 1507 1146" style="margin-left: 40px;"> <thead> <tr> <th data-bbox="358 993 721 1094">2) Additional Charges - Enter the following items and rates where needed: Per Diem</th> <th data-bbox="721 993 987 1024">Extended Standby</th> <th data-bbox="987 993 1253 1024">Fuel Truck</th> <th data-bbox="1253 993 1507 1024">Other Equipment</th> </tr> </thead> <tbody> <tr> <td data-bbox="358 1094 721 1146">"N/A" (pre-entered)</td> <td data-bbox="721 1094 987 1146">\$50 (pre-entered)</td> <td data-bbox="987 1094 1253 1146">"N/A" (pre-entered)</td> <td data-bbox="1253 1094 1507 1146">Operator cost</td> </tr> </tbody> </table>	2) Additional Charges - Enter the following items and rates where needed: Per Diem	Extended Standby	Fuel Truck	Other Equipment	"N/A" (pre-entered)	\$50 (pre-entered)	"N/A" (pre-entered)	Operator cost
2) Additional Charges - Enter the following items and rates where needed: Per Diem	Extended Standby	Fuel Truck	Other Equipment						
"N/A" (pre-entered)	\$50 (pre-entered)	"N/A" (pre-entered)	Operator cost						
	Please provide a primary contact email address for CAL FIRE CWN-related business. Also provide company UEI# If additional REMARKS are necessary, please use available space on additional FC-107/FW forms.								
	Appendix A (Rev. 05/25/18): This is a binding Agreement/contracting document and lays out the terms to which your company/agency is agreeing.								
	Payee Data Record (STD 204): Once this document is properly filled-out and received by CAL FIRE, they will issue your company a "Vendor Number." This document must be filled out clearly and completely. We request operators fill out a new STD 204 form each year, as often things change in vendor information (address, zip code, etc.) and the STD 204 is the only way that the CAL FIRE Business Office can update your vendor information. <b>Make sure your mailing address is the location you want payment sent to, that it matches your tax records, is the same address you put on the contract, and matches the remit to address on your invoices. All must be consistent to avoid payment delays.</b>								
	Contractor Certification Clauses (CCC 04/2017 and CAL FIRE-20). The CCC and CAL FIRE-20 forms contain clauses and conditions that may apply to your agreement and to persons doing business with the State of California. Please sign, initial where required and return the first page of the current CCC 04/2017 and the first page of the CAL FIRE-20 form. Failure to do so will prohibit the State of California from doing business with your company. Blank 1 (a) or (b) on the CAL FIRE-20 form requires initials. If your company has done business activities outside of the United States in the previous three years, please execute the CAL FIRE- 720 form and return. If your company has NOT had business activities outside of the United States in the previous three years, please do not fill out nor return the CAL FIRE-720 form.								

	<p>For Canadian or other foreign operators, submit a W8BEN or W8BEN-E form: <a href="https://apps.irs.gov/app/picklist/list/formsInstructions.html?value=w-8&amp;criteria=formNumber">https://apps.irs.gov/app/picklist/list/formsInstructions.html?value=w-8&amp;criteria=formNumber</a>. This is required to add your company to the State payment database in order for us to reimburse for services.</p>
	<p>Provide a copy of your FAA Part 135/137 certification and list of Part 135-Approved aircraft, if applicable.</p>
	<p>Provide Copies of the following Insurance Certifications showing stated values detailed in Exhibit E:</p> <ol style="list-style-type: none"> <li>1. General Commercial and Commercial Liability Insurance</li> <li>2. Aircraft Liability Insurance</li> <li>3. Worker's Compensation Insurance</li> <li>4. Commercial Automobile Insurance on Owned, Hired, and/or Non-Owned Vehicles</li> <li>5. All insurance certifications must state: <ol style="list-style-type: none"> <li>a. Coverage will not be canceled without 30 days written notice to the State of California</li> <li>b. "State of California, its officers, agents and employees" as additional insured.</li> </ol> </li> </ol>
	<p><b>Attach a CURRENT copy of Interagency Data Card for each aircraft</b> that is listed on the FC-107RW form. If a card is not included with your Agreement documents, please explain why the card is not included and when you expect to have the aircraft carded.</p> <ul style="list-style-type: none"> <li>• Make sure to use the following format when naming Aircraft Data Cards: <b>NXXXXX_2024_Data_Card.PDF</b></li> <li>• Only one aircraft per file, unless an error occurs.</li> <li>• If you receive an error message while uploading Data Cards, first combine all aircraft Data Cards into one PDF file. If you still receive an error message, upload one aircraft data card into DocuSign and email the remaining aircraft data cards to <a href="mailto:RW.CWN.Management@fire.ca.gov">RW.CWN.Management@fire.ca.gov</a></li> </ul>
	<p><b>Provide the following documents for each pilot:</b></p> <ul style="list-style-type: none"> <li>• <b>Signed CAL FIRE Contract Aerial Resource Standards (CARS) Agreement Letter (included).</b></li> <li>• <b>CURRENT</b> copies of Interagency Pilot cards, front and back side, for each pilot that will operate aircraft listed on the FC-107RW.</li> </ul> <p>As a convenience, the following link will allow pilots to sign the CARS Agreement Letter and upload images of their Pilot Cards directly to CAL FIRE. Pilots have the option to add their Chief Pilot's email address to the submission for company records.</p> <p><b>As a reminder, CAL FIRE must receive the CARS Agreement Letters and Pilot Data Cards, front and back, for each pilot. Failure to provide these documents will prevent completion of the CWN agreement.</b></p>
	<p>Provide in Excel format a complete pilot roster for all pilots that will operate aircraft listed on the FC-107RW. to identify between Captain and First Officer.</p>



**APPENDIX A**  
**SCOPE OF WORK**

**SCOPE OF WORK**

1. Vendor agrees to provide to the California Department of Forestry and Fire Protection (CAL FIRE) aerial support to firefighting operations as described herein:  

Vendor shall provide all self-contained facilities, materials, labor, equipment, tools, permits, taxes, transportation and fees to provide call-when-needed aircraft listed on the accompanying FC-107FW and/or FC-107RW, at the designated rates, to the extent that he/she is willing and able.
2. This Agreement will commence upon approval by CAL FIRE, and no work shall begin before that time. This Agreement is of no effect unless approved by CAL FIRE. Vendor shall not receive payment for work performed prior to approval of the Agreement and before receipt of notice to proceed by CAL FIRE Representative.
3. This Agreement shall expire one year from the date signed by an authorized CAL FIRE representative unless canceled on a prior date by either party in writing.
4. Contract Aerial Resources Standards (CARS) is the ruling document for all call-when-needed (CWN) policies and procedures and will be provided to the Vendor during solicitation.
5. Exhibit C, General Terms and Conditions, GTC-04/2017, are attached hereto as part of this agreement.
6. Exhibit D (Special Terms and Conditions) and Exhibit E (Additional Provisions) are also attached hereto as part of this agreement.

**Call-When-Needed Agreement Compliance Process**

**1. Approval Process:**

- a. All call-when-needed (CWN) agreements will be processed in accordance with Contract Aerial Resource Standards (CARS) Chapter 2-7.
- b. All CWN operators and equipment shall comply with Contract Aerial Resource Standards, and all policy and procedures contained therein is incorporated into this agreement by reference.
- c. It is the Operator's responsibility to submit copies of new aircraft and pilot data cards to CAL FIRE when they are issued.
- d. It is the Operator's responsibility to submit copies of renewed insurance policies to CAL FIRE before the previous insurance expiration date. Failure to update insurance requirements may cause a lapse in dispatch status.

**2. Dispatch Process**

- a. Dispatch procedures are outlined in CARS, Chapter 9.
- b. CAL FIRE DOES NOT GUARANTEE the placement of any orders for service under this lease agreement and the operator is not obligated to accept any orders. However, once the operator accepts an order they are obligated to perform in accordance with the terms and conditions stated herein.

**3. Base Check-in Process**

- a. Base check-in procedures are outlined in CARS, Chapters 9 and 14.
- b. If the aircraft is immediately pressed into service without a Base check-in, automatic flight following takeoff time shall be utilized as the time of departure. By the end of the first day the aircraft shall be formally checked in with the helicopter manager or air tanker base manager (ATBM).

**4. Operational Procedures, Flight Planning and Conduct of Flight Operations**

- a. Flight planning and conduct of flight operations are outlined in CARS, Chapters 10 and 11.
- b. The aircraft shall be operated in compliance with all CAL FIRE policies and procedures governing aircraft operations, to include but not limited to the Contract Aerial Resource Standards (CARS).
- c. Helicopters shall not be hired for special missions, (i.e. water drops) unless they are approved and have the necessary associated equipment, (i.e. water bucket).

**5. Tactical Operations Procedures**

- a. Tactical operations procedures are outlined in CARS, Chapter 13.

**6. Check-out Process**

- a. Check-out procedures are outlined in CARS, chapter 9 and 19.
- b. Check out with a responsible CAL FIRE officer. A CAL FIRE Performance Evaluation shall be filed on each aircraft used by CAL FIRE. If the services provided by the Vendor are less than satisfactory, they may be removed from the CWN directory.
- c. A pay document will be initiated by a CAL FIRE officer and signed by the pilot verifying flight time and rates. Upon any dispute the operator agrees that this will be the guiding document.
- d. CWN aerial resources will be compensated for no greater than the flight back to the point of hire. If a CWN aerial resource travels to a location that is less than the distance to the point of hire, the contractor will be compensated for only that distance. Sanctions against a vendor may be sought if vendors misrepresent their destination.

**7. Aviation Safety and Mishap Reporting**

- a. Aviation safety and mishap reporting is outlined in CARS, Chapter 12.

**8. Aircraft Sustainment**

- a. Aircraft sustainment and safety of flight is of utmost importance in conducting safe fire suppression operations. Aircraft sustainment policy is outlined in CARS, Chapter 16

**9. Payment Process**

- a. Payment reconciliation process is outlined in CARS, Chapter 17.

**10. Flight Crew Qualifications**

- a. Flight Crew qualifications are outlined in CARS, Chapter 18.

**11. Evaluations, Resolutions, and Appeals:**

- a. Evaluations, resolutions, and appeals procedures are outlined in CARS, Chapter 19.

**12. Summary**

- a. The above requirements and operating procedures are the minimum standards CAL FIRE will accept for CWN aircraft and pilots.
- b. An authorized representative of the operator and CAL FIRE shall sign this agreement.

**California Department of Forestry  
and Fire Protection – CAL FIRE**

**INTERMITTENT REQUIREMENTS AGREEMENT  
APPROVAL**

This approval page shall be attached to and become part of the California Department of Forestry and Fire Protection – CAL FIRE’s Lease Agreement for the Intermittent Use of Aircraft, FC-107RW or FC-107FW.

California Department of Forestry  
and Fire Protection – CAL FIRE

San Bernardino County Sheriff's Aviation Unit

\_\_\_\_\_  
Company Name (Type or Print)

\_\_\_\_\_  
CAL FIRE Representatives' Name  
(Please print)

Dawn Rowe, Chair, Board of Supervisors

\_\_\_\_\_  
Company Representative’s Name  
(Please print)

\_\_\_\_\_  
CAL FIRE Representative's Signature

\_\_\_\_\_  
Representative's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

# General Terms and Conditions (GTC 04/2017)

## EXHIBIT C

1. APPROVAL: This Agreement is of no force or effect until signed by both parties and approved by the Department of General Services, if required. Contractor may not commence performance until such approval has been obtained.
2. AMENDMENT: No amendment or variation of the terms of this Agreement shall be valid unless made in writing, signed by the parties and approved as required. No oral understanding or Agreement not incorporated in the Agreement is binding on any of the parties.
3. ASSIGNMENT: This Agreement is not assignable by the Contractor, either in whole or in part, without the consent of the State in the form of a formal written amendment.
4. AUDIT: Contractor agrees that the awarding department, the Department of General Services, the Bureau of State Audits, or their designated representative shall have the right to review and to copy any records and supporting documentation pertaining to the performance of this Agreement. Contractor agrees to maintain such records for possible audit for a minimum of three (3) years after final payment, unless a longer period of records retention is stipulated. Contractor agrees to allow the auditor(s) access to such records during normal business hours and to allow interviews of any employees who might reasonably have information related to such records. Further, Contractor agrees to include a similar right of the State to audit records and interview staff in any subcontract related to performance of this Agreement. (Gov. Code §8546.7, Pub. Contract Code §10115 et seq., CCR Title 2, Section 1896).
5. INDEMNIFICATION: Contractor agrees to indemnify, defend and save harmless the State, its officers, agents and employees from any and all claims and losses accruing or resulting to any and all contractors, subcontractors, suppliers, laborers, and any other person, firm or corporation furnishing or supplying work services, materials, or supplies in connection with the performance of this Agreement, and from any and all claims and losses accruing or resulting to any person, firm or corporation who may be injured or damaged by Contractor in the performance of this Agreement.
6. DISPUTES: Contractor shall continue with the responsibilities under this Agreement during any dispute.
7. TERMINATION FOR CAUSE: The State may terminate this Agreement and be relieved of any payments should the Contractor fail to perform the requirements of this Agreement at the time and in the manner herein provided. In the event of such termination the State may proceed with the work in any manner deemed proper by the State. All costs to the State shall be deducted from any sum due the Contractor under this Agreement and the balance, if any, shall be paid to the Contractor upon demand.

8. **INDEPENDENT CONTRACTOR**: Contractor, and the agents and employees of Contractor, in the performance of this Agreement, shall act in an independent capacity and not as officers or employees or agents of the State.
9. **RECYCLING CERTIFICATION**: The Contractor shall certify in writing under penalty of perjury, the minimum, if not exact, percentage of post-consumer material as defined in the Public Contract Code Section 12200, in products, materials, goods, or supplies offered or sold to the State regardless of whether the product meets the requirements of Public Contract Code Section 12209. With respect to printer or duplication cartridges that comply with the requirements of Section 12156(e), the certification required by this subdivision shall specify that the cartridges so comply (Pub. Contract Code §12205).
10. **NON-DISCRIMINATION CLAUSE**: During the performance of this Agreement, Contractor and its subcontractors shall not deny the contract's benefits to any person on the basis of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status, nor shall they discriminate unlawfully against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status. Contractor shall insure that the evaluation and treatment of employees and applicants for employment are free of such discrimination. Contractor and subcontractors shall comply with the provisions of the Fair Employment and Housing Act (Gov. Code §12900 et seq.), the regulations promulgated thereunder (Cal. Code Regs., tit. 2, §11000 et seq.), the provisions of Article 9.5, Chapter 1, Part 1, Division 3, Title 2 of the Government Code (Gov. Code §§11135-11139.5), and the regulations or standards adopted by the awarding state agency to implement such article. Contractor shall permit access by representatives of the Department of Fair Employment and Housing and the awarding state agency upon reasonable notice at any time during the normal business hours, but in no case less than 24 hours' notice, to such of its books, records, accounts, and all other sources of information and its facilities as said Department or Agency shall require to ascertain compliance with this clause. Contractor and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement. (See Cal. Code Regs., tit. 2, §11105.)

Contractor shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under the Agreement.

11. **CERTIFICATION CLAUSES**: The CONTRACTOR CERTIFICATION CLAUSES contained in the document CCC 04/2017 are hereby incorporated by reference and made a part of this Agreement by this reference as if attached hereto.
12. **TIMELINESS**: Time is of the essence in this Agreement.

13. COMPENSATION: The consideration to be paid Contractor, as provided herein, shall be in compensation for all of Contractor's expenses incurred in the performance hereof, including travel, per diem, and taxes, unless otherwise expressly so provided.
14. GOVERNING LAW: This contract is governed by and shall be interpreted in accordance with the laws of the State of California.
15. ANTITRUST CLAIMS: The Contractor by signing this agreement hereby certifies that if these services or goods are obtained by means of a competitive bid, the Contractor shall comply with the requirements of the Government Codes Sections set out below.
  - a. The Government Code Chapter on Antitrust claims contains the following definitions:
    - 1) "Public purchase" means a purchase by means of competitive bids of goods, services, or materials by the State or any of its political subdivisions or public agencies on whose behalf the Attorney General may bring an action pursuant to subdivision (c) of Section 16750 of the Business and Professions Code.
    - 2) "Public purchasing body" means the State or the subdivision or agency making a public purchase. Government Code Section 4550.
  - b. In submitting a bid to a public purchasing body, the bidder offers and agrees that if the bid is accepted, it will assign to the purchasing body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, materials, or services by the bidder for sale to the purchasing body pursuant to the bid. Such assignment shall be made and become effective at the time the purchasing body tenders final payment to the bidder. Government Code Section 4552.
  - c. If an awarding body or public purchasing body receives, either through judgment or settlement, a monetary recovery for a cause of action assigned under this chapter, the assignor shall be entitled to receive reimbursement for actual legal costs incurred and may, upon demand, recover from the public body any portion of the recovery, including treble damages, attributable to overcharges that were paid by the assignor but were not paid by the public body as part of the bid price, less the expenses incurred in obtaining that portion of the recovery. Government Code Section 4553.
  - d. Upon demand in writing by the assignor, the assignee shall, within one year from such demand, reassign the cause of action assigned under this part if the assignor has been or may have been injured by the violation of law for which the cause of action arose and (a) the assignee has not been injured thereby, or (b) the assignee declines to file a court action for the cause of action. See Government Code Section 4554.

16. CHILD SUPPORT COMPLIANCE ACT: For any Agreement in excess of \$100,000, the contractor acknowledges in accordance with Public Contract Code 7110, that:
  - a. The contractor recognizes the importance of child and family support obligations and shall fully comply with all applicable state and federal laws relating to child and family support enforcement, including, but not limited to, disclosure of information and compliance with earnings assignment orders, as provided in Chapter 8 (commencing with section 5200) of Part 5 of Division 9 of the Family Code; and
  - b. The contractor, to the best of its knowledge is fully complying with the earnings assignment orders of all employees and is providing the names of all new employees to the New Hire Registry maintained by the California Employment Development Department.
17. UNENFORCEABLE PROVISION: In the event that any provision of this Agreement is unenforceable or held to be unenforceable, then the parties agree that all other provisions of this Agreement have force and effect and shall not be affected thereby.
18. PRIORITY HIRING CONSIDERATIONS: If this Contract includes services in excess of \$200,000, the Contractor shall give priority consideration in filling vacancies in positions funded by the Contract to qualified recipients of aid under Welfare and Institutions Code Section 11200 in accordance with Pub. Contract Code §10353.
19. SMALL BUSINESS PARTICIPATION AND DVBE PARTICIPATION REPORTING REQUIREMENTS:
  - a. If for this Contract Contractor made a commitment to achieve small business participation, then Contractor must within 60 days of receiving final payment under this Contract (or within such other time period as may be specified elsewhere in this Contract) report to the awarding department the actual percentage of small business participation that was achieved. (Govt. Code § 14841.)
  - b. If for this Contract Contractor made a commitment to achieve disabled veteran business enterprise (DVBE) participation, then Contractor must within 60 days of receiving final payment under this Contract (or within such other time period as may be specified elsewhere in this Contract) certify in a report to the awarding department: (1) the total amount the prime Contractor received under the Contract; (2) the name and address of the DVBE(s) that participated in the performance of the Contract; (3) the amount each DVBE received from the prime Contractor; (4) that all payments under the Contract have been made to the DVBE; and (5) the actual percentage of DVBE participation that was achieved. A person or entity that knowingly provides false information shall be subject to a civil penalty for each violation. (Mil. & Vets. Code § 999.5(d); Govt. Code § 14841.)

20. LOSS LEADER: If this contract involves the furnishing of equipment, materials, or supplies then the following statement is incorporated: It is unlawful for any person engaged in business within this state to sell or use any article or product as a “loss leader” as defined in Section 17030 of the Business and Professions Code. (PCC 10344(e).)



**EXHIBIT D**

**(Special Terms and Conditions)**

**SPECIAL TERMS AND CONDITIONS**

**1. Excise Tax**

The State of California is exempt from federal excise taxes, and no payment will be made for any taxes levied on employees' wages. The State will pay for any applicable State of California or local sales or use taxes on the services rendered or equipment or parts supplied pursuant to this Agreement. California may pay any applicable sales and use tax imposed by another state.

**2. Settlement of Disputes**

In the event of a dispute, within 10 days of discovery of the problem, Vendor shall file a "Notice of Dispute" with:

California Department of Forestry and Fire Protection  
Attention: CAL FIRE Project Representative  
P.O. Box 944246  
Sacramento, CA 94244-2460

Within 10 days of CAL FIRE receiving Vendor's notice, the Contracts Representative or designee shall advise Vendor of the findings and recommend a method to resolve the dispute. Decision of the Contracts Representative or designee shall be final.

In the event of a dispute, the language contained within this Agreement shall prevail over any other language including that of the bid proposal.

**3. Right to Terminate**

A. Termination for Cause

The agreement can be immediately terminated for cause. (Refer to GTC, Exhibit C, Item 7. Termination for Cause)

B. Termination without Cause

The State reserves the right to terminate this agreement subject to 30 days written notice to the Vendor. Vendor may submit a written request to terminate this agreement only if the State should substantially fail to perform its responsibilities as provided herein.

**4. Retention of Records/ Audits**

A. Vendor agrees that the awarding department, the Department of General Services, the Bureau of State Audits, or their designated representative shall have the right to review and to copy any records and supporting documentation pertaining to the performance of this Agreement. Vendor agrees to maintain such records for possible audit for a minimum of three (3) years after final payment, unless a longer period of records retention is stipulated. Vendor agrees to allow the auditor(s) access to such records during normal business hours and to allow interviews of any employees who might reasonably have information related to such records. Further, Vendor agrees to include a similar right of the State to audit records and interview staff in any subcontract related to performance of this Agreement (GC § 8546.7, PCC § 10115 et seq., CCR Title 2, §1896). Vendor shall comply with the above and be aware of the penalties for violations of fraud and for obstruction of investigation as set forth in PCC § 10115.10.

B. Any subcontract entered into as a result of this Agreement shall contain all of the provisions of this clause.

**5. Sub Vendors**

A. Nothing contained in this Agreement or otherwise, shall create any contractual relation between CAL FIRE and any Sub Vendors, and no subcontract shall relieve Vendor of its responsibilities and obligations hereunder. Vendor agrees to be as fully responsible to CAL FIRE for the acts and omissions of its Sub Vendors and of persons either directly or indirectly employed by any of them as it is for the acts and omissions of persons directly employed by Vendor. Vendor's obligation to pay its Sub Vendors is an independent obligation from CAL FIRE obligation to make payments to Vendor.

B. Any substitution of Sub Vendors shall comply with the requirements of Public Contract Code Sections 4100 et seq. and must be approved in writing by CAL FIRE Project Representative in advance of assigning work to a substitute Sub Vendor.

**5. Non-Solicitation**

Vendor warrants by execution of this Agreement, that no person or selling agency has been employed or retained to solicit or secure this Agreement upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained or contracted by Vendor for the purpose of securing business. For breach or violation of this warranty, the State shall, in addition to other remedies provided by law, have the right to annul this Agreement without liability, paying only for the value of the work actually performed, or in its discretion, to deduct from the contract price or consideration, or otherwise recover the full amount of such commission, percentage, brokerage, or contingent fee.

**6. Laws to be Observed**

Vendor shall keep fully informed of all existing and future State and Federal laws and county and municipal ordinances and regulations which in any manner affect those engaged or employed in the work, the materials used in the work, or which in any way affect the conduct of the work, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. Vendor shall at all times observe and comply with and shall cause all agents and employees to observe and comply with, all such existing and future laws, ordinances, regulations, orders, and decrees of bodies or tribunals having any jurisdiction or authority over the Agreement. Vendor shall protect and indemnify the State of California and all officers and employees thereof connected with the work against any claim, injury, or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by Vendor, its Sub Vendor(s), or an employee(s). If any discrepancy or inconsistency is discovered in the plans, drawings, specification, or Agreement for the work in relation to any such law, ordinance, regulation, order, or decree, Vendor shall immediately report the same to CAL FIRE Project Representative in writing.

**7. Evaluation of Vendor**

Performance of the Vendor under this Agreement will be evaluated. The evaluation shall be prepared on a CAL FIRE-230 Performance Evaluation form and maintained in the Agreement file. CAL FIRE reserves the right to share CAL FIRE 230 Performance Evaluation forms with other Government entities upon request.

**8. Agency Liability**

The Vendor warrants by execution of this Agreement, that no person or selling agency has been employed or retained to solicit or secure this Agreement upon agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Vendor for the purpose of securing business. For breach or violation of this warranty, the State shall, in addition to other remedies provided by law, have the right to annul this Agreement without liability, paying only for the value of the work actually performed, or otherwise recover the full amount of such commission, percentage, brokerage, or contingent fee.

**9. Force Majeure**

Neither party shall be liable to the other for any delay in or failure of performance, nor shall any such delay in or failures of performance constitute default, if such delay or failure is caused by "Force Majeure." As used in this section, "Force Majeure" is defined as follows: Acts of war and acts of God such as earthquakes, floods, and other natural disasters such that performance is impossible.

**10. Vendor Name Change**

Vendor shall provide a written notice to the State at least 30 days prior to any changes to the Vendor's current legal name.

**11. Health and Safety**

- A. Vendor and all Sub Vendors shall abide by all health and safety mandates issued by federal, state, and local governments and/or public health officers as well as those issued by CAL FIRE, and worksite specific mandates. If multiple mandates exist, the Vendor and Sub Vendors shall abide by the most restrictive mandate. The term "employee", "worker", "state worker" or "state employee" in health and safety mandates includes Vendor and Sub Vendor personnel.
- B. Costs associated with adhering to health and safety mandates are the responsibility of the Vendor. Vendor is responsible for the tracking and compliance of health and safety mandates and may be audited upon request.

**12. Executive Order N-6-22 – Russia Sanctions**

On March 4, 2022, Governor Gavin Newsom issued Executive Order N-6-22 (the EO) regarding Economic Sanctions against Russia and Russian entities and individuals. "Economic Sanctions" refers to sanctions imposed by the U.S. government in response to Russia's actions in Ukraine, as well as any sanctions imposed under state law. The EO

directs state agencies to terminate contracts with, and to refrain from entering any new contracts with, individuals or entities that are determined to be a target of Economic Sanctions. Accordingly, should the State determine Vendor is a target of Economic Sanctions or is conducting prohibited transactions with sanctioned individuals or entities, that shall be grounds for termination of this agreement. The State shall provide Vendor advance written notice of such termination, allowing Vendor at least 30 calendar days to provide a written response. Termination shall be at the sole discretion of the State.

**EXHIBIT E**  
**(Additional Provisions)**

**ADDITIONAL PROVISIONS**

**1. Insurance Requirements**

A. General Provisions Applying to All Policies

- 1) Deductible and Premiums
  - a) Vendor is responsible for any deductible or self-insured retention contained within the insurance program.
  - b) The Department will not provide for nor compensate Vendor for any insurance premiums or costs for any type or amount of insurance.
- 2) Coverage Term and Policy Cancellation or Termination:
  - a) Coverage must be in force for the complete term of this Agreement. If insurance expires during the term of this Agreement, a new certificate must be received by CAL FIRE project representative at least ten (10) days prior to the expiration of the insurance. Any new insurance must continue to comply with the original terms of this Agreement.
  - b) Vendor shall provide, to CAL FIRE project representative within five (5) business days, following receipt by Contactor, a copy of any cancellation or non-renewal of insurance required by this Agreement. In the event Vendor fails to keep, in effect at all times, the specified insurance coverage, the State may, in addition to any other remedies it may have, terminate this Agreement upon the occurrence of such event, subject to the provisions of this Agreement.
- 3) Primary Clause: Any required insurance contained in this contract shall be primary, and not excess or contributory, to any other insurance carried by the State.
- 4) Endorsements: Any required endorsements requested by the State must be physically attached to all requested certificates of insurance and not substituted by referring to such coverage on the certificate of insurance.
- 5) The Department will not provide for nor compensate Vendor for any insurance premiums or costs for any type or amount of insurance.
- 6) Insurance Carrier Required Rating: All insurance companies must carry a rating acceptable to the Department of General Services, Office of Risk and Insurance Management (ORIM). If Vendor is self-insured for a portion or all of its insurance, review of financial information including a letter of credit may be required. Department of General Services, ORIM Website: <https://www.dgs.ca.gov/ORIM>.
- 7) When Vendor submits a signed contract to the State, Vendor shall furnish to the State a certificate of insurance stating that all required insurance is in effect for the Vendor.

B. General and Commercial Liability Insurance

- 1) Vendor shall provide commercial general liability insurance of not less than **\$1,000,000.00** per occurrence for bodily injury and property damage liability combined in effect for the Vendor.
- 2) The policy shall include coverage for liabilities arising out of premises, operations, independent Vendors, products, completed operations, personal and advertising injury, and liability assumed under an insured Agreement. This insurance shall apply separately to each insured against whom claim is made or suit is brought subject to Vendor's limit of liability.
- 3) The certificate of insurance will include the following provision in its entirety:

**That the State of California, its officers, agents, employees, and servants are included as additional insured, but only insofar as the operations under this contract are concerned.**
- 4) The additional insured endorsement must accompany the certificate of insurance.
- 5) This endorsement must be supplied under form acceptable to the Department of General Services, Office of Risk and Insurance Management.

C. Worker's Compensation Insurance

Vendor shall provide Worker's Compensation Insurance with Waiver of Subrogation in favor of the State of California. Employer's liability shall be not less than **\$1,000,000.00**. The following clause should be included: "Waiver of Subrogation in favor of the State of California or in favor of CAL FIRE:" By signing this Agreement, the Vendor hereby warrants that it carries Workers' Compensation Insurance on all of its employees who will be engaged in the performance of this Agreement. If Staff provided by the Vendor is defined as independent Vendors, this clause does not apply.

- D. Commercial Automobile Insurance on Owned, Hired, and/or Non-Owned vehicles.  
Vendor shall provide Commercial Automobile Insurance on Owned, Hired, and/or Non-Owned vehicles of not less than **\$1,000,000.00** policy. The same additional insured designation and endorsement required for general liability is to be provided for this coverage.
- E. Aircraft Liability  
Vendor shall maintain Aircraft Liability with limits of not less than **\$3,000,000.00** per occurrence and not less than **\$6,000,000.00** aggregate. The same additional insured designation and endorsement required for general liability is to be provided for this coverage.
- F. Available Coverages/Limits  
In the event the insurance coverages obtained by Vendor is broader in scope than, and/or the limits are higher than, those required under the contract, all such broader coverage and/or higher limits available to Vendor shall also be available and applicable to the State.

## 2. Regulations

- A. Vendor shall observe and comply with all federal, state, city, and county laws, rules or regulations affecting the work. Any work done that does not comply with any laws, rules, or regulations will be remedied at the Vendor's expense.
- B. Vendor shall cooperate with the CAL FIRE authorities and shall observe and comply with all regulations presently in force on CAL FIRE grounds.

## 3. Americans with Disabilities Act

By signing this contract, the Vendor assures the State that it complies with the Americans with Disabilities Act (ADA) of 1990 (42 USC § 12101 et seq.), which prohibits discrimination on the basis of disability, as well as with all applicable regulations and guidelines issued pursuant to the ADA.

## 4. License and Permits

- A. The Vendor shall be an individual or firm currently licensed to do business in California and shall obtain at his/her expense all license(s) and permit(s) required by law for accomplishing any work required in connection with this contract. In the event the Vendor fails to keep in effect at all times all required license(s) and permit(s), the State may, in addition to any other remedies it may have, terminate this contract upon occurrence of such event.
- B. If you are a Vendor located within the State of California, a business license from the city/county in which you are headquartered is necessary however, if you are a corporation, a copy of your incorporation documents/letter from the Secretary of State's Office can be submitted. If you are a Vendor outside the State of California, you will need to submit to the CAL FIRE Contracts Unit a copy of your business license or incorporation papers for your respective State showing that your company is in good standing in that state.
- C. If Vendor is a California or foreign corporation, Vendor must be registered and active/in good standing with the California Secretary of State.
- D. In the event any license(s) and/or permit(s) expire at any time during the term of this Agreement, Vendor agrees to provide CAL FIRE Project Representative a copy of the renewed license(s) and/or permit(s) within 30 days following the expiration date. In the event Vendor fails to keep in effect at all times all required

license(s) and permit(s), the State may, in addition to any other remedies it may have, terminate this Agreement upon occurrence of such event.

**5. Tax Delinquencies Contract Ban**

Public Contract Code section 10295.4 provides that a state agency shall not enter into any contract for goods or services with a Vendor whose name appears on either list of the 500 largest tax delinquencies pursuant to Section 7063 or 19195 of the Revenue and Taxation Code. This prohibition applies to contracts executed on or after July 1, 2012. FTB and BOE will post and periodically update lists of the 500 largest tax delinquencies on their websites as required by law. Starting July 1, 2012, prior to executing contracts, state agencies must check the FTB and BOE lists to ensure the proposed awardee/vendor is not on either list.

**6. Debarment and Suspension Certification**

- A. Vendor's signature affixed herein shall constitute a certification under penalty of perjury under the laws of the State of California, that Vendor or any person associated therewith in the capacity of owner, partner, director, officer, or manager:
- 1) is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency;
  - 2) has not been suspended, debarred, voluntarily excluded, or determined ineligible by any Federal agency within the past three (3) years;
  - 3) does not have a proposed debarment pending; and
  - 4) has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three (3) years.
- B. Any exceptions to this certification must be disclosed to CAL FIRE. Exceptions will not necessarily result in denial of recommendation for award but will be considered in determining bidder responsibility. Disclosures must indicate the party to whom the exceptions apply, the initiating agency, and the dates of agency action.

**7. Small Business or Disabled Veteran Business Enterprise Certification**

Vendor and/or Sub Vendor(s) shall maintain its status as a DGS certified SB/MB or DVBE, as applicable, throughout the term of this Agreement.

**PAYEE DATA RECORD**(Required when receiving payment from the State of California in lieu of IRS W-9 or W-7)  
STD 204 (Rev. 03/2021)**Section 1 – Payee Information****NAME** (This is required. Do not leave this line blank. Must match the payee's federal tax return)  
San Bernardino County Sheriff's Department Aviation Unit**BUSINESS NAME, DBA NAME or DISREGARDED SINGLE MEMBER LLC NAME** (If different from above)**MAILING ADDRESS** (number, street, apt. or suite no.) (See instructions on Page 2)  
199 N. Hangar Way**CITY, STATE, ZIP CODE**  
San Bernardino, CA 92415**E-MAIL ADDRESS****Section 2 – Entity Type****Check one (1) box only that matches the entity type of the Payee listed in Section 1 above.** (See instructions on page 2) **SOLE PROPRIETOR / INDIVIDUAL** **SINGLE MEMBER LLC** *Disregarded Entity owned by an individual* **PARTNERSHIP** **ESTATE OR TRUST** **CORPORATION** (see instructions on page 2) **MEDICAL** (e.g., dentistry, chiropractic, etc.) **LEGAL** (e.g., attorney services) **EXEMPT** (e.g., nonprofit) **ALL OTHERS****Section 3 – Tax Identification Number**Enter your Tax Identification Number (TIN) in the appropriate box. The TIN must **match** the name given in Section 1 of this form. Do not provide more than one (1) TIN. The TIN is a 9-digit number. **Note:** Payment will not be processed without a TIN.

- For **Individuals**, enter SSN.
- If you are a **Resident Alien**, and you do not have and are not eligible to get an SSN, enter your ITIN.
- Grantor Trusts (such as a Revocable Living Trust while the grantors are alive) may not have a separate FEIN. Those trusts must enter the individual grantor's SSN.
- For **Sole Proprietor or Single Member LLC (disregarded entity)**, in which the **sole member is an individual**, enter SSN (ITIN if applicable) or FEIN (FTB prefers SSN).
- For **Single Member LLC (disregarded entity)**, in which the **sole member is a business entity**, enter the owner entity's FEIN. Do not use the disregarded entity's FEIN.
- For all other entities including LLC that is taxed as a corporation or partnership, estates/trusts (with FEINs), enter the entity's FEIN.

**Social Security Number (SSN) or Individual Tax Identification Number (ITIN)**

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

**OR****Federal Employer Identification Number (FEIN)**

95-6002748

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

**Section 4 – Payee Residency Status** (See instructions) **CALIFORNIA RESIDENT** – Qualified to do business in California or maintains a permanent place of business in California. **CALIFORNIA NONRESIDENT** – Payments to nonresidents for services may be subject to state income tax withholding. No services performed in California Copy of Franchise Tax Board waiver of state withholding is attached.**Section 5 – Certification****I hereby certify under penalty of perjury that the information provided on this document is true and correct. Should my residency status change, I will promptly notify the state agency below.****NAME OF AUTHORIZED PAYEE REPRESENTATIVE**  
Dawn Rowe**TITLE**  
Chair, Board of Supervisors**E-MAIL ADDRESS**  
Dawn.Rowe@bos.sbcounty.gov**SIGNATURE****DATE****TELEPHONE** (include area code)  
909-387-4866**Section 6 – Paying State Agency**

Please return completed form to:

**STATE AGENCY/DEPARTMENT OFFICE****UNIT/SECTION****MAILING ADDRESS****FAX****TELEPHONE** (include area code)**CITY****STATE****ZIP CODE****E-MAIL ADDRESS**

**PAYEE DATA RECORD**

(Required when receiving payment from the State of California in lieu of IRS W-9 or W-7)  
STD 204 (Rev. 03/2021)

**GENERAL INSTRUCTIONS**

Type or print the information on the Payee Data Record, STD 204 form. Sign, date, and return to the state agency/department office address shown in Section 6. Prompt return of this fully completed form will prevent delays when processing payments.

Information provided in this form will be used by California state agencies/departments to prepare Information Returns (Form1099).

**NOTE:** Completion of this form is optional for Government entities, i.e. federal, state, local, and special districts.

A completed Payee Data Record, STD 204 form, is required for all payees (non-governmental entities or individuals) entering into a transaction that may lead to a payment from the state. Each state agency requires a completed, signed, and dated STD 204 on file; therefore, it is possible for you to receive this form from multiple state agencies with which you do business.

Payees who do not wish to complete the STD 204 may elect not to do business with the state. If the payee does not complete the STD 204 and the required payee data is not otherwise provided, payment may be reduced for federal and state backup withholding. Amounts reported on Information Returns (Form 1099) are in accordance with the Internal Revenue Code (IRC) and the California Revenue and Taxation Code (R&TC).

**Section 1 – Payee Information**

**Name** – Enter the name that appears on the payee's federal tax return. The name provided shall be the tax liable party and is subject to IRS TIN matching (when applicable).

- Sole Proprietor/Individual/Revocable Trusts – enter the name shown on your federal tax return.
- Single Member Limited Liability Companies (LLCs) that is disregarded as an entity separate from its owner for federal tax purposes - enter the name of the individual or business entity that is tax liable for the business in section 1. Enter the DBA, LLC name, trade, or fictitious name under Business Name.
- Note: for the State of California tax purposes, a Single Member LLC is not disregarded from its owner, even if they may be disregarded at the Federal level.
- Partnerships, Estates/Trusts, or Corporations – enter the entity name as shown on the entity's federal tax return. The name provided in Section 1 must match to the TIN provided in section 3. Enter any DBA, trade, or fictitious business names under Business Name.

**Business Name** – Enter the business name, DBA name, trade or fictitious name, or disregarded LLC name.

**Mailing Address** – The mailing address is the address where the payee will receive information returns. Use form STD 205, Payee Data Record Supplement to provide a remittance address if different from the mailing address for information returns, or make subsequent changes to the remittance address.

**Section 2 – Entity Type**

If the Payee in Section 1 is a(n)...	THEN Select the Box for...
Individual • Sole Proprietorship • Grantor (Revocable Living) Trust disregarded for federal tax purposes	Sole Proprietor/Individual
Limited Liability Company (LLC) owned by an individual and is disregarded for federal tax purposes	Single Member LLC-owned by an individual
Partnerships • Limited Liability Partnerships (LLP) • and, LLC treated as a Partnership	Partnerships
Estate • Trust (other than disregarded Grantor Trust)	Estate or Trust
Corporation that is medical in nature (e.g., medical and healthcare services, physician care, nursery care, dentistry, etc.) • LLC that is to be taxed like a Corporation and is medical in nature	Corporation-Medical
Corporation that is legal in nature (e.g., services of attorneys, arbitrators, notary publics involving legal or law related matters, etc.) • LLC that is to be taxed like a Corporation and is legal in nature	Corporation-Legal
Corporation that qualifies for an Exempt status, including 501(c) 3 and domestic non-profit corporations.	Corporation-Exempt
Corporation that does not meet the qualifications of any of the other corporation types listed above • LLC that is to be taxed as a Corporation and does not meet any of the other corporation types listed above	Corporation-All Other

**Section 3 – Tax Identification Number**

The State of California requires that all parties entering into business transactions that may lead to payment(s) from the state provide their Taxpayer Identification Number (TIN). The TIN is required by R&TC sections 18646 and 18661 to facilitate tax compliance enforcement activities and preparation of Form 1099 and other information returns as required by the IRC section 6109(a) and R&TC section 18662 and its regulations.

**Section 4 – Payee Residency Status**

**Are you a California resident or nonresident?**

- A corporation will be defined as a "resident" if it has a permanent place of business in California or is qualified through the Secretary of State to do business in California.
- A partnership is considered a resident partnership if it has a permanent place of business in California.
- An estate is a resident if the decedent was a California resident at time of death.
- A trust is a resident if at least one trustee is a California resident.
  - For individuals and sole proprietors, the term "resident" includes every individual who is in California for other than a temporary or transitory purpose and any individual domiciled in California who is absent for a temporary or transitory purpose. Generally, an individual who comes to California for a purpose that will extend over a long or indefinite period will be considered a resident. However, an individual who comes to perform a particular contract of short duration will be considered a nonresident.

For information on Nonresident Withholding, contact the Franchise Tax Board at the numbers listed below:

Withholding Services and Compliance Section: 1-888-792-4900  
For hearing impaired with TDD, call: 1-800-822-6268

E-mail address: [wscs.gen@ftb.ca.gov](mailto:wscs.gen@ftb.ca.gov)  
Website: [www.ftb.ca.gov](http://www.ftb.ca.gov)

**Section 5 – Certification**

Provide the name, title, email address, signature, and telephone number of individual completing this form and date completed. In the event that a SSN or ITIN is provided, the individual identified as the tax liable party must certify the form. Note: the signee may differ from the tax liable party in this situation if the signee can provide a power of attorney documented for the individual.

**Section 6 – Paying State Agency**

This section must be completed by the state agency/department requesting the STD 204.

**Privacy Statement**

Section 7(b) of the Privacy Act of 1974 (Public Law 93-579) requires that any federal, state, or local governmental agency, which requests an individual to disclose their social security account number, shall inform that individual whether that disclosure is mandatory or voluntary, by which statutory or other authority such number is solicited, and what uses will be made of it. It is mandatory to furnish the information requested. Federal law requires that payment for which the requested information is not provided is subject to federal backup withholding and state law imposes noncompliance penalties of up to \$20,000. You have the right to access records containing your personal information, such as your SSN. To exercise that right, please contact the business services unit or the accounts payable unit of the state agency(ies) with which you transact that business.

All questions should be referred to the requesting state agency listed on the bottom front of this form.



**PAYEE DATA RECORD SUPPLEMENT**

(This form is optional. Form is used to provide remittance address information if different than the mailing address on the STD 204 - Payee Data Record. Use this form to provide additional remittance addresses and additional Authorized Representatives of the Payee not identified on the STD 204.)  
STD 205 (New 03/2021)

**Payee Information (must match the STD 204)**

<b>NAME</b> (Required. Do not leave blank.)	<b>TAX ID NUMBER</b> (Required) SSN, ITIN, or FEIN that matches Tax ID number provided on STD 204
<b>BUSINESS NAME, DBA NAME or DISREGARDED SINGLE MEMBER LLC NAME</b> (If different from above)	

**Additional Remittance Address Information**

- Use the fields below to provide remittance addresses for payee if different from the mailing address on the STD 204.
- The addresses provided below are for remittance purposes only. 1099 information returns will be sent to the mailing address specified on the STD 204.**

<b>1</b>	<b>REMITTANCE ADDRESS</b> (number, street, apt or suite no.)		
	CITY	STATE	ZIP CODE
<b>2</b>	<b>REMITTANCE ADDRESS</b>		
	CITY	STATE	ZIP CODE
<b>3</b>	<b>REMITTANCE ADDRESS</b>		
	CITY	STATE	ZIP CODE
<b>4</b>	<b>REMITTANCE ADDRESS</b>		
	CITY	STATE	ZIP CODE
<b>5</b>	<b>REMITTANCE ADDRESS</b>		
	CITY	STATE	ZIP CODE

**Additional Contact Information**

Use the fields below to provide additional Authorized Representatives for the Payee if applicable.

<b>1</b>	<b>CONTACT NAME</b>	
	TELEPHONE (Include area code)	EMAIL
<b>2</b>	<b>CONTACT NAME</b>	
	TELEPHONE	EMAIL
<b>3</b>	<b>CONTACT NAME</b>	
	TELEPHONE	EMAIL

**Certification**

**I hereby certify under penalty of perjury that the information provided on this supplemental document is true and correct.**

**By signing this document, I authorize the State of California to remit payment to the addresses specified on this supplemental form (STD 205) and certify that all persons identified on this form are authorized representatives of this payee. Payments remitted to any of the listed addresses may be reported on 1099 information returns to the tax liable entity identified on the accompanying Payee Data Record - STD 204.**

<b>NAME OF AUTHORIZED PAYEE REPRESENTATIVE</b> (Print or Type name)	<b>TITLE</b>	<b>E-MAIL ADDRESS</b>
<b>SIGNATURE</b>  X _____	<b>DATE</b>	<b>TELEPHONE</b> (Include area code)

**PAYEE DATA RECORD SUPPLEMENT**

(This form is optional. Form is used to provide remittance address information if different than the mailing address on the STD 204 - Payee Data Record. Use this form to provide additional remittance addresses and additional Authorized Representatives of the Payee not identified on the STD 204.)  
STD 205 (New 03/2021)

**GENERAL INSTRUCTIONS**

Type or print the information on the Payee Data Record Supplement, STD 205. Sign, date, and return to the state agency/department with a completed STD 204. Prompt return of the fully completed forms will prevent delays when processing payments.

**Purpose** – Completion of this form (STD 205) is optional. Payees may use this form to provide remittance addresses or contact information in addition to the 1099 information return mailing address provided on the STD 204. This form shall only be used in conjunction with the STD 204, and will not be accepted without a STD 204.

**Please note:** The State of California Government will issue 1099 information returns to the mailing address provided on the most recently dated form STD 204 validated by the Payee. Addresses provided on this form (STD 205) will be used for remittance purposes only. If the payee would like to update the address for receiving 1099 information returns, please complete the STD 204.

**Payee Information:** The Payee's Tax ID number (TIN) and Name (including any Business, DBA, or Disregarded LLC names) are required. This information is subject to TIN matching via the IRS database for validation. Payee Information provided in this section must clearly match the STD 204. Any discrepancies may result in delays of payment, up to and including denial of the request.

**Name** – Enter the name of the Payee. The name provided shall be the tax liable party and is subject to IRS TIN matching (when applicable).

**Business Name** – Enter the business name, DBA name, trade or fictitious name, or disregarded LLC name.

**Tax ID Number**-The State of California requires that all parties entering into business transactions that may lead to payment(s) from the state provide their Taxpayer Identification Number (TIN). The TIN is required by R&TC sections 18646 and 18661 to facilitate tax compliance enforcement activities and preparation of Form 1099 and other information returns as required by the IRC section 6109(a) and R&TC section 18662 and its regulations.

**Additional Remittance Address Information** - Enter the Payee's additional remittance address(s) that are not listed on STD 204. Up to five (5) addresses may be provided on this form. The Payee may provide additional remittance addresses on a second STD 205 form if needed.

**Additional Contact Information** - Enter the Payee's additional or updated contact information. Up to three contacts may be identified on this form. Payee may provide additional contacts on a second STD 205 if needed.

**PRIVACY STATEMENT**

Section 7(b) of the Privacy Act of 1974 (Public Law 93-579) requires that any federal, state, or local governmental agency, which requests an individual to disclose their social security account number, shall inform that individual whether that disclosure is mandatory or voluntary, by which statutory or other authority such number is solicited, and what uses will be made of it.

It is mandatory to furnish the information requested. Federal law requires that payment for which the requested information is not provided is subject to federal backup withholding and state law imposes noncompliance penalties of up to \$20,000.

You have the right to access records containing your personal information, such as your SSN. To exercise that right, please contact the business services unit or the accounts payable unit of the state agency(ies) with which you transact that business.

All questions should be referred to the requesting state agency listed on the bottom front of the STD 204 form.

STATE OF CALIFORNIA  
 Department of Forestry and Fire Protection  
**Contractor Certification Clauses for Services**  
 CAL FIRE-20 (Rev. 05/15) (Page 1 of 3)

I, the official named below, CERTIFY UNDER PENALTY OF PERJURY that I am duly authorized to legally bind the prospective Contractor to the clause(s) listed below. This certification is made under the laws of the State of California.

<b>Contractor/Firm Name (Printed)</b> San Bernardino County Sheriff's Aviation Unit		<b>Federal ID Number</b> 95-6002748
<b>By (Authorized Signature)</b>		
<b>Printed Name and Title of Person Signing</b> Dawn Rowe, Chair, Board of Supervisors		
<b>Date Executed</b>	<b>Executed in the County of</b> San Bernardino	
<b>ATTENTION CONTRACTOR: Please be sure to initial clauses, where required.</b>		

**1. DARFUR CONTRACTING ACT VENDOR CERTIFICATION**

**FORM CAL FIRE-720:** Under the Darfur Contracting Act (Public Contract Code Sections 10475-10481), if a company that currently, or within the previous three years, has had business activities or other operations outside of the United States submits a bid or proposal for a State of California contract for goods or services, the State agency must require the company to certify that it is not a *scrutinized* company as defined in Public Contract Code Section 10476, or that it is a scrutinized company that has been granted permission by the California Department of General Services to submit a bid or proposal for the contract.

**CONTRACTOR: You MUST INITIAL either line (a) or (b) below, to indicate your company's current certification requirement:**

\_\_\_\_\_ (a) We currently have, or have had within the previous three years, business activities or other operations outside of the United States, and, therefore, are REQUIRED to and shall complete and submit a form CAL FIRE-720 (Darfur Contracting Act Vendor Certification) with our bid or proposal for this contract for goods or services.

OR

\_\_\_\_\_ (b) We currently do not have, and have not had within the previous three years, business activities or other operations outside of the United States, and, therefore, are NOT REQUIRED to complete and submit a form CAL FIRE-720 (Darfur Contracting Act Vendor Certification) with our bid or proposal for this contract for goods or services.

**2. STATEMENT OF COMPLIANCE:** Contractor has, unless exempted, complied with the nondiscrimination program requirements. (Gov. Code §12990 (a-f) and CCR, Title 2, Section 8103) (Not applicable to public entities.)

**3. DRUG-FREE WORKPLACE REQUIREMENTS:** Contractor will comply with the requirements of the Drug-Free Workplace Act of 1990 and will provide a drug-free workplace by taking the following actions:

- a. Publish a statement notifying employees that unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited and specifying actions to be taken against employees for violations.
- b. Establish a Drug-Free Awareness Program to inform employees about:
  - 1) the dangers of drug abuse in the workplace;
  - 2) the person's or organization's policy of maintaining a drug-free workplace;
  - 3) any available counseling, rehabilitation and employee assistance programs; and,
  - 4) penalties that may be imposed upon employees for drug abuse violations.
- c. Every employee who works on the proposed Agreement will:
  - 1) receive a copy of the company's drug-free workplace policy statement; and,
  - 2) agree to abide by the terms of the company's statement as a condition of employment on the Agreement.

Failure to comply with these requirements may result in suspension of payments under the Agreement or termination of the Agreement or both and Contractor may be ineligible for award of any future State agreements if the department determines that any of the following has occurred: the Contractor has made false certification, or violated the certification by failing to carry out the requirements as noted above. (Gov. Code §8350 et seq.)

STATE OF CALIFORNIA  
Department of Forestry and Fire Protection  
CAL FIRE-20 (Rev. 05/15) (Page 2 of 3)

**4. NATIONAL LABOR RELATIONS BOARD CERTIFICATION:**

Contractor certifies that no more than one (1) final unappealable finding of contempt of court by a Federal court has been issued against Contractor within the immediately preceding two-year period because of Contractor's failure to comply with an order of a Federal court, which orders Contractor to comply with an order of the National Labor Relations Board. (Pub. Contract Code §10296) (Not applicable to public entities.)

**5. CONTRACTS FOR LEGAL SERVICES \$50,000 OR MORE- PRO BONO REQUIREMENT:**

Contractor hereby certifies that contractor will comply with the requirements of Section 6072 of the Business and Professions Code, effective January 1, 2003. Contractor agrees to make a good faith effort to provide a minimum number of hours of pro bono legal services during each year of the contract equal to the lessor of 30 multiplied by the number of full time attorneys in the firm's offices in the State, with the number of hours prorated on an actual day basis for any contract period of less than a full year or 10% of its contract with the State.

Failure to make a good faith effort may be cause for non-renewal of a state contract for legal services, and may be taken into account when determining the award of future contracts with the State for legal services.

**6. EXPATRIATE CORPORATIONS:** Contractor hereby declares that it is not an expatriate corporation or subsidiary of an expatriate corporation within the meaning of Public Contract Code Section 10286 and 10286.1, and is eligible to contract with the State of California.

**7. SWEATFREE CODE OF CONDUCT:**

a. All Contractors contracting for the procurement or laundering of apparel, garments or corresponding accessories, or the procurement of equipment, materials, or supplies, other than procurement related to a public works contract, declare under penalty of perjury that no apparel, garments or corresponding accessories, equipment, materials, or supplies furnished to the state pursuant to the contract have been laundered or produced in whole or in part by sweatshop labor, forced labor, convict labor, indentured labor under penal sanction, abusive forms of child labor or exploitation of children in sweatshop labor, or with the benefit of sweatshop labor, forced labor, convict labor, indentured labor under penal sanction, abusive forms of child labor or exploitation of children in sweatshop labor. The contractor further declares under penalty of perjury that they adhere to the Sweatfree Code of Conduct as set forth on the California Department of Industrial Relations website located at [www.dir.ca.gov](http://www.dir.ca.gov), and Public Contract Code Section 6108.

b. The contractor agrees to cooperate fully in providing reasonable access to the contractor's records, documents, agents or employees, or premises if reasonably required by authorized officials of the contracting agency, the Department of Industrial Relations, or the Department of Justice to determine the contractor's compliance with the requirements under paragraph (a).

**8. DOMESTIC PARTNERS:** For contracts over \$100,000 executed or amended after January 1, 2007, the contractor certifies that contractor is in compliance with Public Contract Code section 10295.3.

**DOING BUSINESS WITH THE STATE OF CALIFORNIA**

The following laws apply to persons or entities doing business with the State of California:

**1. PROMPT PAYMENT CLAUSE:** Payment will be made in accordance with, and within the time specified in, Government Code Chapter 4.5, commencing with Section 927. In the event of an emergency, as defined in section 927.11, late payment penalties may not apply. **Specific to the California Department of Forestry and Fire Protection (CAL FIRE), if an invoice from a business under contract with CAL FIRE becomes subject to late payment penalties during the annually declared fire season, then the required payment approval date shall extend thirty (30) calendar days beyond the initial forty-five (45)-day period, except in the case of a contract with a certified small business, a certified Disabled Veteran Business Enterprise, a non-profit organization, or a non-profit public benefit corporation.**

**2. CONFLICT OF INTEREST:** Contractor needs to be aware of the following provisions regarding current or former state employees. If Contractor has any questions on the status of any person rendering services or involved with the Agreement, the awarding agency must be contacted immediately for clarification.

Current State Employees (Pub. Contract Code §10410):

- 1) No officer or employee shall engage in any employment, activity or enterprise from which the officer or employee receives compensation or has a financial interest and which is sponsored or funded by any state agency, unless the employment, activity or enterprise is required as a condition of regular state employment.
- 2) No officer or employee shall contract on his or her own behalf as an independent contractor with any state agency to provide goods or services.

Former State Employees (Pub. Contract Code §10411):

- 1) For the two-year period from the date he or she left state employment, no former state officer or employee may enter into a contract in which he or she engaged in any of the negotiations, transactions, planning, arrangements or any part of the decision-making process relevant to the contract while employed in any capacity by any state agency.
- 2) For the twelve-month period from the date he or she left state employment, no former state officer or employee may enter into a contract with any state agency if he or she was employed by that state agency in a policy-making position in the same general subject area as the proposed contract within the 12-month period prior to his or her leaving state service.

If Contractor violates any provisions of above paragraphs, such action by Contractor shall render this Agreement void. (Pub. Contract Code §10420)

Members of boards and commissions are exempt from this section if they do not receive payment other than payment of each meeting of the board or commission, payment for preparatory time and payment for per diem. (Pub. Contract Code §10430 (e))

**3. LABOR CODE/WORKERS' COMPENSATION:** Contractor needs to be aware of the provisions which require every employer to be insured against liability for Worker's Compensation or to undertake self-insurance in accordance with the provisions, and Contractor affirms to comply with such provisions before commencing the performance of the work of this Agreement. (Labor Code Section 3700)

STATE OF CALIFORNIA  
Department of Forestry and Fire Protection  
CAL FIRE-20 (Rev. 05/15) (Page 3 of 3)

**4. AMERICANS WITH DISABILITIES ACT:** Contractor assures the State that it complies with the Americans with Disabilities Act (ADA) of 1990, which prohibits discrimination on the basis of disability, as well as all applicable regulations and guidelines issued pursuant to the ADA. (42 U.S.C. 12101 et seq.)

**5. CONTRACTOR NAME CHANGE:** An amendment is required to change the Contractor's name as listed on this Agreement. Upon receipt of legal documentation of the name change the State will process the amendment. Payment of invoices presented with a new name cannot be paid prior to approval of said amendment.

**6. CORPORATE QUALIFICATIONS TO DO BUSINESS IN CALIFORNIA:**

- a. When agreements are to be performed in the state by corporations, the contracting agencies will be verifying that the contractor is currently qualified to do business in California in order to ensure that all obligations due to the state are fulfilled.
- b. "Doing business" is defined in R&TC Section 23101 as actively engaging in any transaction for the purpose of financial or pecuniary gain or profit. Although there are some statutory exceptions to taxation, rarely will a corporate contractor performing within the state not be subject to the franchise tax.
- c. Both domestic and foreign corporations (those incorporated outside of California) must be in good standing in order to be qualified to do business in California. Agencies will determine whether a corporation is in good standing by calling the Office of the Secretary of State.

**7. RESOLUTION:** A county, city, district, or other local public body must provide the State with a copy of a resolution, order, motion, or ordinance of the local governing body which by law has authority to enter into an agreement, authorizing execution of the agreement.

**8. AIR OR WATER POLLUTION VIOLATION:** Under the State laws, the Contractor shall not be: (1) in violation of any order or resolution not subject to review promulgated by the State Air Resources Board or an air pollution control district; (2) subject to cease and desist order not subject to review issued pursuant to Section 13301 of the Water Code for violation of waste discharge requirements or discharge prohibitions; or (3) finally determined to be in violation of provisions of federal law relating to air or water pollution.

**9. PAYEE DATA RECORD FORM STD. 204:** This form must be completed by all contractors that are not another state agency or other governmental entity.

**10. PREVAILING WAGES:** (Rates can be viewed at [www.dir.ca.gov/DLSR](http://www.dir.ca.gov/DLSR))

- 1) In accordance with the provisions of Section 1770 and 1773 of the Labor Code, contractor and any subcontractor shall conform to the general prevailing wages as determined by the Director of Industrial Relations. Copies of these wage rate determinations or amendments may be reviewed at the principal office of the contracting agency.
- 2) In accordance with Labor Code section 1813, contractor shall forfeit to the State a penalty of twenty-five dollars (\$25) for each calendar day or portion thereof for any of contractor's workers or subcontractors paid less than the stipulated prevailing wage.
- 3) Contractor further agrees to pay each worker the difference

- between the actual amount paid for each calendar day or portion thereof, and the stipulated prevailing wage rate. This provision does not apply to properly registered apprentices.
- 4) In accordance with Labor Code sections 1810, 1811, and 1814, the maximum hours a worker will be employed is limited to eight (8) hours a day and 40 hours a week, except as permitted below. Contractor shall forfeit twenty-five dollars (\$25) per day as a penalty to the State for each worker employed under the contract in violation of this law.
  - 5) In accordance with Labor Code section 1815, contractor is permitted to employ workers more than eight (8) hours a day and 40 hours a week at not less than 1 1/2 times the basic rate of pay.

**11. CHILD SUPPORT WITHHOLDING DISCLAIMER:** Payment for services provided under this contract may be subject to withholding pursuant to a child support income withholding order. California FC 5206, 5246, and 17512.



DEPARTMENT OF FORESTRY AND FIRE PROTECTION  
**DARFUR CONTRACTING ACT VENDOR CERTIFICATION**  
 CAL FIRE-720 (REV. 08/21)

## DARFUR CONTRACTING ACT VENDOR CERTIFICATION

Pursuant to Public Contract Code Section 10475-10481, if a bidder or proposer currently, or within the previous three years, has had business activities or other operations outside of the United States, it must certify that it is not a **“scrutinized company”** as defined in Public Contract Code Section 10476 (see attached definition).

Therefore, to be eligible to submit a bid or proposal, please complete the company/vendor information and one of the three following clauses (**NOTE:** Clause #1 requires initials only; Clause #2 requires initials only; Clause #3 requires initials and a certification signature):

DATE	FEDERAL ID NUMBER
PRINTED COMPANY / VENDOR NAME NOT APPLICABLE	
PRINTED NAME <u>AND</u> TITLE OF AUTHORIZED PERSON INITIALING AN OPTION BELOW	

**Complete ONLY ONE of the following:**

1. \_\_\_\_\_ We do not currently have, and have not had within the previous three (3) years, business activities or other operations outside of the United States.  
       Initials only

**OR**

2. \_\_\_\_\_ We are a *scrutinized company* as defined in Public Contract Code Section 10476, but we have received written permission from the Department of General Services (DGS) to submit a bid or proposal pursuant to Public Contract Code Section 10477(b). **A copy of the written permission from DGS is included with our bid or proposal.**  
       Initials only

**OR**

3. \_\_\_\_\_ We currently have, or we have had within the previous three (3) years, business activities or other operations outside of the United States, but we certify below that we are not a *scrutinized company* as defined in Public Contract Code Section 10476.  
       Initials only  
       +  
       **certification below**

**CERTIFICATION for #3**

I, the official named below, CERTIFY UNDER PENALTY OF PERJURY that I am duly authorized to legally bind the prospective proposer/bidder to the clause listed above in #3. This certification is made under the laws of the State of California.

BY (AUTHORIZED SIGNATURE)	
PRINTED NAME <u>AND</u> TITLE OF AUTHORIZED PERSON SIGNING	
DATE EXECUTED	EXECUTED IN THE COUNTY AND STATE OF



**DEFINITION of SCRUTINIZED COMPANY**  
**PUBLIC CONTRACT CODE SECTION 10476**

**10476.** *As used in this article, the following definition applies:*

**"Scrutinized company"** means a company in Sudan that is involved in power production activities, mineral extraction activities, oil-related activities, or the production of military equipment, but **excludes a company that can demonstrate any of the following:**

- (a) *Its business operations are conducted under contract directly and exclusively with the regional government of southern Sudan.*
- (b) *Its business operations are conducted under a license from the Office of Foreign Assets Control or are expressly exempted under federal law from the requirement to be conducted under such a license.*
- (c) *Its business operations consist of providing goods or services to marginalized populations of Sudan.*
- (d) *Its business operations exclusively consist of providing goods or services to an internationally recognized peacekeeping force or humanitarian organization.*
- (e) *Its business operations consist of providing goods or services that are used only to promote health or education.*
- (f) *Its business operations with the Government of Sudan will be voluntarily suspended for the entire duration of the contract for goods or services for which they have bid on, or submitted a proposal for, a contract with a state agency.*
- (g) *It has adopted, publicized, and is implementing a formal plan to cease business operations within one year and to refrain from conducting any new business operations.*

# Contractor Certification Clauses

CCC 04/2017

## CERTIFICATION

I, the official named below, CERTIFY UNDER PENALTY OF PERJURY that I am duly authorized to legally bind the prospective Contractor to the clause(s) listed below. This certification is made under the laws of the State of California.

Contractor/Bidder Firm Name (Printed)	Federal ID Number
san Bernardino County Sheriff's Aviation Unit	95-6002748

By (Authorized Signature)

Printed Name and Title of Person Signing

Dawn Rowe, Chair, Board of Supervisors

Date Executed	Executed in the County of
	San Bernardino

## CONTRACTOR CERTIFICATION CLAUSES

1. **STATEMENT OF COMPLIANCE:** Contractor has, unless exempted, complied with the nondiscrimination program requirements. (Gov. Code §12990 (a-f) and CCR, Title 2, Section 11102) (Not applicable to public entities.)

2. **DRUG-FREE WORKPLACE REQUIREMENTS:** Contractor will comply with the requirements of the Drug-Free Workplace Act of 1990 and will provide a drug-free workplace by taking the following actions:

a. Publish a statement notifying employees that unlawful manufacture, distribution, dispensation, possession or use of a controlled substance is prohibited and specifying actions to be taken against employees for violations.

b. Establish a Drug-Free Awareness Program to inform employees about:

- 1) the dangers of drug abuse in the workplace;
- 2) the person's or organization's policy of maintaining a drug-free workplace;
- 3) any available counseling, rehabilitation and employee assistance programs; and,
- 4) penalties that may be imposed upon employees for drug abuse violations.

c. Every employee who works on the proposed Agreement will:

- 1) receive a copy of the company's drug-free workplace policy statement; and,



2) agree to abide by the terms of the company's statement as a condition of employment on the Agreement.

Failure to comply with these requirements may result in suspension of payments under the Agreement or termination of the Agreement or both and Contractor may be ineligible for award of any future State agreements if the department determines that any of the following has occurred: the Contractor has made false certification, or violated the certification by failing to carry out the requirements as noted above. (Gov. Code §8350 et seq.)

3. NATIONAL LABOR RELATIONS BOARD CERTIFICATION: Contractor certifies that no more than one (1) final unappealable finding of contempt of court by a Federal court has been issued against Contractor within the immediately preceding two-year period because of Contractor's failure to comply with an order of a Federal court, which orders Contractor to comply with an order of the National Labor Relations Board. (Pub. Contract Code §10296) (Not applicable to public entities.)

4. CONTRACTS FOR LEGAL SERVICES \$50,000 OR MORE- PRO BONO REQUIREMENT: Contractor hereby certifies that Contractor will comply with the requirements of Section 6072 of the Business and Professions Code, effective January 1, 2003.

Contractor agrees to make a good faith effort to provide a minimum number of hours of pro bono legal services during each year of the contract equal to the lessor of 30 multiplied by the number of full time attorneys in the firm's offices in the State, with the number of hours prorated on an actual day basis for any contract period of less than a full year or 10% of its contract with the State.

Failure to make a good faith effort may be cause for non-renewal of a state contract for legal services, and may be taken into account when determining the award of future contracts with the State for legal services.

5. EXPATRIATE CORPORATIONS: Contractor hereby declares that it is not an expatriate corporation or subsidiary of an expatriate corporation within the meaning of Public Contract Code Section 10286 and 10286.1, and is eligible to contract with the State of California.

6. SWEATFREE CODE OF CONDUCT:

a. All Contractors contracting for the procurement or laundering of apparel, garments or corresponding accessories, or the procurement of equipment, materials, or supplies, other than procurement related to a public works contract, declare under penalty of perjury that no apparel, garments or corresponding accessories, equipment, materials, or supplies furnished to the state pursuant to the contract have been laundered or produced in whole or in part by sweatshop labor, forced labor, convict labor, indentured labor under penal sanction, abusive forms of child labor or exploitation of children in sweatshop labor, or with the benefit of sweatshop labor, forced labor, convict labor, indentured labor under penal sanction, abusive forms of child labor or exploitation of children in sweatshop labor. The contractor further declares under penalty of perjury that they adhere to the Sweatfree Code of Conduct as set forth on the California Department of Industrial Relations website located at [www.dir.ca.gov](http://www.dir.ca.gov), and Public Contract Code Section 6108.

b. The contractor agrees to cooperate fully in providing reasonable access to the contractor's records, documents, agents or employees, or premises if reasonably

required by authorized officials of the contracting agency, the Department of Industrial Relations, or the Department of Justice to determine the contractor's compliance with the requirements under paragraph (a).

7. DOMESTIC PARTNERS: For contracts of \$100,000 or more, Contractor certifies that Contractor is in compliance with Public Contract Code section 10295.3.

8. GENDER IDENTITY: For contracts of \$100,000 or more, Contractor certifies that Contractor is in compliance with Public Contract Code section 10295.35.

## **DOING BUSINESS WITH THE STATE OF CALIFORNIA**

The following laws apply to persons or entities doing business with the State of California.

1. CONFLICT OF INTEREST: Contractor needs to be aware of the following provisions regarding current or former state employees. If Contractor has any questions on the status of any person rendering services or involved with the Agreement, the awarding agency must be contacted immediately for clarification.

Current State Employees (Pub. Contract Code §10410):

1). No officer or employee shall engage in any employment, activity or enterprise from which the officer or employee receives compensation or has a financial interest and which is sponsored or funded by any state agency, unless the employment, activity or enterprise is required as a condition of regular state employment.

2). No officer or employee shall contract on his or her own behalf as an independent contractor with any state agency to provide goods or services.

Former State Employees (Pub. Contract Code §10411):

1). For the two-year period from the date he or she left state employment, no former state officer or employee may enter into a contract in which he or she engaged in any of the negotiations, transactions, planning, arrangements or any part of the decision-making process relevant to the contract while employed in any capacity by any state agency.

2). For the twelve-month period from the date he or she left state employment, no former state officer or employee may enter into a contract with any state agency if he or she was employed by that state agency in a policy-making position in the same general subject area as the proposed contract within the 12-month period prior to his or her leaving state service.

If Contractor violates any provisions of above paragraphs, such action by Contractor shall render this Agreement void. (Pub. Contract Code §10420)

Members of boards and commissions are exempt from this section if they do not receive payment other than payment of each meeting of the board or commission, payment for preparatory time and payment for per diem. (Pub. Contract Code §10430 (e))

2. LABOR CODE/WORKERS' COMPENSATION: Contractor needs to be aware of the provisions which require every employer to be insured against liability for Worker's Compensation or to undertake self-insurance in accordance with the provisions, and

Contractor affirms to comply with such provisions before commencing the performance of the work of this Agreement. (Labor Code Section 3700)

3. AMERICANS WITH DISABILITIES ACT: Contractor assures the State that it complies with the Americans with Disabilities Act (ADA) of 1990, which prohibits discrimination on the basis of disability, as well as all applicable regulations and guidelines issued pursuant to the ADA. (42 U.S.C. 12101 et seq.)

4. CONTRACTOR NAME CHANGE: An amendment is required to change the Contractor's name as listed on this Agreement. Upon receipt of legal documentation of the name change the State will process the amendment. Payment of invoices presented with a new name cannot be paid prior to approval of said amendment.

5. CORPORATE QUALIFICATIONS TO DO BUSINESS IN CALIFORNIA:

a. When agreements are to be performed in the state by corporations, the contracting agencies will be verifying that the contractor is currently qualified to do business in California in order to ensure that all obligations due to the state are fulfilled.

b. "Doing business" is defined in R&TC Section 23101 as actively engaging in any transaction for the purpose of financial or pecuniary gain or profit. Although there are some statutory exceptions to taxation, rarely will a corporate contractor performing within the state not be subject to the franchise tax.

c. Both domestic and foreign corporations (those incorporated outside of California) must be in good standing in order to be qualified to do business in California. Agencies will determine whether a corporation is in good standing by calling the Office of the Secretary of State.

6. RESOLUTION: A county, city, district, or other local public body must provide the State with a copy of a resolution, order, motion, or ordinance of the local governing body which by law has authority to enter into an agreement, authorizing execution of the agreement.

7. AIR OR WATER POLLUTION VIOLATION: Under the State laws, the Contractor shall not be: (1) in violation of any order or resolution not subject to review promulgated by the State Air Resources Board or an air pollution control district; (2) subject to cease and desist order not subject to review issued pursuant to Section 13301 of the Water Code for violation of waste discharge requirements or discharge prohibitions; or (3) finally determined to be in violation of provisions of federal law relating to air or water pollution.

8. PAYEE DATA RECORD FORM STD. 204: This form must be completed by all contractors that are not another state agency or other governmental entity.

**State of California**  
**DEPARTMENT OF FORESTRY AND FIRE PROTECTION (CAL FIRE)**  
**INTERMITTENT USE AIRCRAFT PRE-HIRE INFORMATION**  
FC-115 (New 02/10)

**I. INCIDENT REQUEST (Completed by Pilot/Operator)**

Operator \_\_\_\_\_

Date \_\_\_\_\_ Order No. \_\_\_\_\_ Req. No. \_\_\_\_\_ Fire Name \_\_\_\_\_

Aircraft Type \_\_\_\_\_ FAA No. \_\_\_\_\_

Departure Base \_\_\_\_\_ Hobbs Meter \_\_\_\_\_

Report To \_\_\_\_\_ Frequency \_\_\_\_\_

Location \_\_\_\_\_

Billing Address \_\_\_\_\_

Aircraft Data Card: Standard \_\_\_\_\_ Restricted \_\_\_\_\_ Expiration Date \_\_\_\_\_

Pilot Qualification Card: Name \_\_\_\_\_ Expiration Date \_\_\_\_\_

**II. PRE-HIRE INSPECTION (Completed by CAL FIRE officer)**

Current Aircraft Data Card in aircraft: Yes \_\_\_\_\_ No \_\_\_\_\_

Current Pilot Approval Card Yes \_\_\_\_\_ No \_\_\_\_\_

Aircraft condition: Cleanliness    Damage    Remarks

Fuselage \_\_\_\_\_

Engine/Transmission \_\_\_\_\_

Propeller/Rotor System \_\_\_\_\_

Interior \_\_\_\_\_

**III. VERIFICATION**

CAL FIRE Representative \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

Pilot's Name \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

INSTRUCTIONS: see reverse side

## **FC-115 INSTRUCTIONS**

### **FOR OPERATOR**

1. Complete OPERATOR section (Para. I) at the time of dispatch. If the aircraft is re-dispatched from the first assignment with a new order number, fill out a new form for the next assignment.
2. Submit to the first CAL FIRE officer encountered at the assignment location for completion. If a CAL FIRE officer is not available, retain the form and comply with number 3.
3. This form **MUST** accompany your invoice, regardless of whether or not contact is made with a CAL FIRE officer.
4. If the pilot or aircraft lack a current FC-107RW Lease Agreement, approval cards, or mission approval, the flight will be canceled and the AIRCRAFT SENT HOME WITHOUT PAYMENT.

### **FOR CAL FIRE OFFICER**

1. Ensure the operator/pilot has completed the top portion of the form.
2. Verify that the aircraft has a current aircraft data card and that the pilot has a current approval card (check the expiration date).
3. Look over the aircraft to ensure that there is no obvious damage to the exterior or interior of the aircraft, to include excessive oil leaks.
4. If the pilot or aircraft do not have current approval cards, or are not approved for the requested mission. (i.e., recon, law enforcement, tank/water bucket, long line, etc.) **DO NOT USE THE AIRCRAFT AND CONTACT YOUR ECC.**

# **CONTRACT AERIAL RESOURCE STANDARDS (CARS)**

**March 1, 2024**



California Department of Forestry and Fire Protection  
Aviation Management Unit

5500 Price Avenue  
McClellan, CA 95652

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# RECORD OF CHANGES

Change Number	Date of Change	Date Entered
<b>1</b>	<b>March 1, 2024</b>	

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## SUBMISSION

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DocuSigned by:

*Stuart Sprung*

D96D5D8D01A943A

Stuart Sprung, CAL FIRE AMU  
 Chair – CARS Committee

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## APPROVAL

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By direction of the CAL FIRE 8309, 8310, and 8312, the CARS is hereby approved as governing policy.

DocuSigned by:

*Marty Buno*

D940E180E1FF438

Marty Buno, CAL FIRE AMU  
 Senior Aviation Officer





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## PREFACE

The CAL FIRE Contract Aerial Resource Standards (CARS) provides specific requirements to operate all CAL FIRE contract aircraft in accordance with [policies 8309, 8310, and 8312](#). It is incumbent upon CAL FIRE to provide aerial resource vendors, cooperators, and contract counties airworthiness and operational requirements.

Adherence to all standards herein is **mandatory** and can only be waived by the AMU Operations Duty Chief by direction of the Senior Aviation Officer. Any waiver granted is primarily based upon risk exposure when compared to perceived benefit and will be granted on a case-by-case basis.

**All operators and support staff operating for CAL FIRE are subject to the policies and procedures outlined within the CARS.**

The CARS or any other promulgated CAL FIRE policy cannot provide direction for every conceivable scenario, nor does it substitute the employment **of good judgment, crew resource management, and operational risk assessments made at the appropriate level**. Deviation from this instruction is expected in the attempt to save the crew, aircraft, and ground personnel from injury or death.

Contract Aerial Resources Committee. The CAL FIRE CARS is reviewed and updated annually at a minimum, by the Contract Aerial Resources Committee, comprised of the following personnel:

- Chair – AMU Chief of Flight Operations
- AMU Helicopter Program Chief Pilot
- AMU Fixed Wing Program Manager
- TAO Division Chief – Helicopter Operations
- TAO Division Chief – Fixed Wing Operations
- Aviation Safety Officer
- AMU Staff Service Manager
- Team AOBD Representative

Change Recommendations. Base and Unit personnel are encouraged to provide recommended changes to the CARS through a change and review process. The [Air Operations – Policy Change Recommendations](#) link shall be used to forward changes to the CARS Committee for consideration.

Review and Signature Authority. AMU Senior Aviation Officer provides clearance of annual reviews and updates to the CAL FIRE CARS.

Changes to the CARS. All approved changes to the CAL FIRE CARS will be identified using a bold line along the left margin.



# STANDARD DEFINITIONS & GLOSSARY

## STANDARDS DEFINITIONS

The terms **Shall**, **Will**, **Should**, and **May** are used throughout the CAL FIRE CARS.

**Shall/Will:** Compliance is mandatory under all circumstance except for responding to an in-flight emergency.

**Should:** Compliance is expected in most cases. Some circumstance may preclude compliance or require different action.

**May and/or Recommended:** Compliance is encouraged but not required.

## GLOSSARY OF TERMS

**Pilot Carding:** A document issued by an Inspector Pilot which certifies a pilot to conduct specific basic and tactical missions based upon a flight proficiency verification.

**Aircraft Carding:** A document issued by a certified state or federal aircraft inspector which certifies an aircraft to conduct specific tactical missions.

**Code of Federal Regulation (CFR):** Is a codification of general and permanent rules published in the Federal Register by the executive departments and agencies of the Federal Government. CFRs are organized by Titles (i.e., Title 1, 2, etc.) CFRs take precedence over state constitutions, and state and local laws.

**Federal Aviation Administration (FAA).** The division of the Department of Transportation that inspects and rates aircraft and pilots, enforces the rules of air safety, and installs and maintains air-navigation and traffic-control facilities. The FAA has regulatory authority and establishes aviation regulations in the United States through Federal Aviation Regulations. In addition to its regulatory role, the FAA is also responsible for Airspace and Air Traffic Management, maintenance of Air Navigation Facilities infrastructure and has an active role in Research and Development of aviation related systems and technologies.

**Federal Aviation Regulations (FAR):** Regulations prescribed by the FAA governing all aviation activities in the United States. CFR Title 14 – Aeronautics and Space empowers the FAA with this regulatory authority. Only certain parts of the FARs apply to Public Aircraft Operations.

**Flight Crew Members:** Qualified crew members required for the safe operation of an aircraft. The construct of a flight crew is dependent on the mission.

**Geographic Area Coordination Center (GACC).** Interagency regional operations center responsible for coordinating, mobilizing, and demobilizing emergency management



## STANDARD DEFINITIONS & GLOSSARY

resources. CAL FIRE North and South Region Operations are embedded in the northern and southern GACCs. All flight-following services are provided by the appropriate GACC until arriving at the incident.

Pilot-In-Command (PIC): A pilot qualified and current to operate a specific aircraft make and model. The term PIC, Pilot, and Operator may be used interchangeably throughout the CARS.

Pilot-At-The-Controls (PAC): A pilot operating the flight controls or automated systems coupled to the flight controls.

Qualified Crew Member: A required crew member essential to the safe operation of the aircraft during flight as required by the aircraft flight manual or military equivalent. The term Qualified Crew Member and Flight Crew Member may be used interchangeably throughout the CARS.

Non-Qualified Crew Member: A crew member not essential to the safe operation of the aircraft however, is required to accomplish a government function.

Fire Traffic Area (FTA): The FTA is a communication and deconfliction protocol for firefighting agencies utilizing aerial resources. The FTA should not be confused with a TFR, which is a legal restriction established by the FAA to restrict aviation traffic.

Visual Flight Rules (VFR): VFR are a set of FAA regulations which operators shall comply with in order to fly visually, maintain visual contact, and afford adequate separation from surrounding aircraft and terrain. When flying under VFR, the weather must meet the Visual Meteorological Conditions (VMC) minimums.

Instrument Flight Rules (IFR): IFR are a set of FAA regulations which operators are required to fly specified routes, departures, arrivals, and approaches normally under the regulatory direction of Air Traffic Control. IFR flights may operate in VMC or in Instrument Meteorological Conditions (IMC). Both the pilots and the aircraft shall be certified and current to operate IFR.

Low-Level Operations: Tactical operations 500 feet AGL and below.



# CHAPTER 1: PROGRAM ADMINISTRATION

## **SCOPE OF CONTRACT AERIAL RESOURCE STANDARDS**

Overview. The intent of the Contract Aerial Resources program is to obtain aerial resources operated by fully qualified and proficient personnel and equipped to meet specifications contained herein. Since CAL FIRE routinely operates in concert with federal partners, all federal aircraft and pilot inspection cards may be accepted by CAL FIRE. Typical mission sets contracted include, but are not limited to, fire suppression, fire monitoring, initial attack, prescribed fire and aerial ignition operations, and reconnaissance.

## **CAL FIRE CONTRACT AERIAL RESOURCE COMMAND AND CONTROL**

1. Aviation Regulatory Authority. Directs Operational Command and Control on how to safely operate, sustain, and support aerial assets and train flight crews.
2. Operational Command and Control (CAL FIRE 8100). Determines when to utilize an aerial asset to accomplish the Department's mission.

## **AVIATION REGULATORY AUTHORITY**

Department-Level. The Assistant Deputy Director of Aviation and Mobile Equipment serves as direct oversight of the Department's Aviation Program and is the conduit to allow the Director to exercise Administrative Command and Control over CAL FIRE aircraft.

Program-Level. Aviation Management Unit and Tactical Air Operations provides administrative command and control functions and disseminates information to Region and Unit-Level Operational Command and Control.

---





## CHAPTER 2: TYPES OF AERIAL RESOURCE CONTRACTS

### SCOPE OF CONTRACTING AERIAL RESOURCES

Overview. CAL FIRE enters into five different types of contracts/agreements each fire season. The level and type of contract is dependent upon the aircraft source (i.e., County owned, County contracted, cooperator owned, cooperator contracted, private owned, etc.)

Each type of contract may utilize a different contracting mechanism based on the aircraft source; however all operators are evaluated to the standards outlined in the Interagency Pilot Practical Test Standards.

Types of Contracts/Agreements. The following are the type of contracts and/or agreements entered into by CAL FIRE:

1. Contract County Agreements (Aerial Resources Only)
  - Kern County
  - Los Angeles County
  - Marin County
  - Orange County
  - Santa Barbara County
  - Ventura County
2. Local Government Cooperator Agreements
  - Cities and counties not listed above
3. Exclusive Use (EU) Agreements
4. Call When Needed (CWN) Agreements
5. Local Unit Agreements

Contract County Agreements. In accordance with Public Resources Code Section 4129, the board of supervisors of Kern, Los Angeles, Marin, Orange, Santa Barbara, and Ventura counties have provided ordinances to assume responsibility for the prevention and suppression of all fires on all land within their respective counties, except for federal lands.

All aerial resources and operators are subject to aircraft inspections and pilot proficiency verifications meeting interagency standards.

Local Government Cooperator Agreements. Several municipalities within California have dedicated aerial resources within their areas of responsibility devoted to fire suppression



## CHAPTER 2: TYPES OF AERIAL RESOURCE CONTRACTS

and reconnaissance. All aerial resources and operators are subject to aircraft inspections and pilot proficiency verifications meeting interagency standards.

EU Contracts. Private vendors providing aircraft that meet a forecasted demand filling a unique role or mission set. Typical Exclusive Use contracts are provided for 90 days and may be extended depending on forecasted demand and funding.

Call When Needed Contracts. Private vendor hired as needed to fulfill a specific resource ordered based on the needs of the Incident Commander or Unit.

Local Unit Agreement. CAL FIRE units and local municipalities may enter into a local unit agreement. All local government aircraft and operators are subject to annual aircraft inspections and pilot proficiency verification prior to being utilized for mutual aid.



## CHAPTER 3: CONTRACT COUNTIES

### SCOPE OF CONTRACT REQUIREMENTS FOR CONTRACT COUNTIES

Overview. CAL FIRE enters into a Fire Protection Agreement each operational year with Contract Counties. These Fire Protection Agreements outline the annual operating plan to include notifications, reports, initial attack response, extended attack response, reimbursement, billing, maintenance of spatial data, fire prevention, law enforcement, fire plans, and general provisions.

General Contract Requirements. The below table outlines general contract elements addressed within each Contract County Fire Protection Agreement:

Table 1. Contract County General Contract Elements for Aerial Resources.

CAL FIRE aircraft use within SRA	Aerial resource ordering via GACC
County utilization of own aircraft for interagency use	Mutual Threat Zones/Mutual Aid Agreements/Automatic Aid
Use of CWN specialized aircraft	No-Divert Policy
State resource ordering for extended attack	Use of night fire suppression aerial resources for initial attack on SRA
CAL FIRE Air Tactical/Airtanker Deployment Schedule	Aircraft and Pilot Certification and Carding/ Cooperator Letter
Risk Assessment checklists	Certificate of Insurance
Incident Management and Teams	Cost sharing
Frequencies	Restricted/Unrestricted Aerial Missions
FC-107CC Data	Contact Information

Each county may have unique exhibits pertinent to their scope of operations utilizing public-owned and/or contracted aerial resources.

Deadline for General Contract Requirements. Each Contract County operates with CAL FIRE via an Annual Operating Plan (AOP), valid from July 1 to June 30. General contract requirements for aerial resources shall be submitted to the State Contract Counties Deputy Chief before June 1 of each year.

Expiration of Aerial Resource Agreements with Contract Counties. All agreements for contract county-owned aircraft and county-contracted aircraft shall expire 365 days after the signature date of the FC-107CC.



# CHAPTER 3: CONTRACT COUNTIES

Aircraft Compliance. In partnership with federal agencies, federal land resource agencies (i.e., U.S. Forest Service (USFS) and Department of Interior (DOI – OAS)) offer conditional reciprocity for aircraft certification, known as “aircraft carding” or “Interagency Cooperator Letter”.

The primary resource for carding should be through the USFS or DOI – OAS.

CAL FIRE AMU may provide aircraft inspections and certifications only if efforts have been exhausted to receive aircraft certification through these federal partners.

Only aircraft available for CAL FIRE reimbursement are rostered on the FC-107CC when not operating under a Fire Protection Agreement. Once inspected, each aircraft will be added to the Hired Equipment Management System (HEMS) for dispatch availability.

Aircraft Compliance Limitations – Inspections Conducted by CAL FIRE. All aircraft certified solely by CAL FIRE Aviation Maintenance Officer will receive a CAL FIRE Cooperator Letter. This Cooperator Letter **is not** accepted by the USFS and DOI for an incident where CAL FIRE is not in unified command.

Requirements for Aircraft Compliance. Counties seeking aircraft certification shall meet the minimum requirements in accordance with:

Table 2. Aircraft Inspection and Certification Requirements.

U.S. Forest Service Fire and Aviation Management Aircraft Inspector Guide
NWCG Standards for Interagency Cooperator Type 2 and 3 Helicopters – PMS 525-1
NASF Cooperator Aviation Standards for Interagency Fire

Additional Requirements for Contractor-Owned Aircraft. To conduct reimbursable aerial operations in support of a wildland fire outside of a Local Responsibility Area (LRA) and Mutual Threat Zone (MTZ), counties utilizing their own contracting mechanisms (i.e., EU or CWN) shall ensure that each aircraft meets the minimum equipment requirements outlined in each reference within Table 2.

Additionally, each commercial vendor (non-government) shall hold a valid 14 CFR Part 133, 135, and/or 137 operating certificate and aircraft rostered within the Operations Specification.

Pilot Proficiency Verification (Carding) Requirements. Each county-employed or contract pilot shall receive an initial proficiency verification or renewal proficiency verification annually, as applicable, and in accordance with the Interagency Pilot Practical Test Standards administered by a CAL FIRE Inspector Pilot or Interagency Inspector Pilot.



## CHAPTER 3: CONTRACT COUNTIES

Pilot Carding Limitations. All pilots certified solely by CAL FIRE Inspector Pilots will be rostered on a CAL FIRE Cooperator Letter. This Cooperator Letter **is not** accepted by the USFS and DOI for an incident where CAL FIRE is not in unified command.

CAL FIRE Inspector Pilots are prohibited from flying in an aircraft not currently inspected and certified by CAL FIRE or USFS/DOI – OAS.

Pilot Carding Intervals. Pilots shall receive a pilot card (initial or renewal) each year. A practical pilot verification is required for an initial issuance of a pilot card and 36 months since the last practical pilot verification for renewals. CAL FIRE reserves the right to require a full practical pilot proficiency verification in lieu of a renewal card documentation audit.

Pilot Carding – Initial. All initial pilot carding requires a practical pilot proficiency verification conducted by a CAL FIRE Inspector Pilot for requested specific mission profiles if an Interagency Inspector Pilot (USFS or DOI – OAS) is unavailable.

If a pilot fails to meet a total of 100 PIC hours within 365 days since the date entered on the pilot card/cooperator letter, the pilot shall conduct a practical pilot proficiency verification.

Pilot Carding – Renewal. Pilots requesting a renewal card shall submit documentation in Table 9 for renewal consideration.

Pilot Carding Required Documents. Chapter 7 provides guidance regarding required documents to be submitted to the assigned CAL FIRE Inspector Pilot.

Added Mission Skill. If an added mission skill is sought by a pilot, a practical pilot proficiency verification is required for the specific mission skill.



## CHAPTER 4: LOCAL GOVERNMENT COOPERATORS

### SCOPE OF CONTRACT REQUIREMENTS FOR LOCAL GOVERNMENT COOPERATORS

Overview. CAL FIRE enters into cooperator agreements each operational year. These agreements are renewed annually and shall include general contract requirements in Table 3.

General Contract Requirements. The below table outlines general contract elements addressed within each local government cooperator agreement.

Table 3. Local Government General Contract Elements for Aerial Resources.

Cover Letter & Recent Changes	FC-107RW and/or FC-107FW: Lease Agreement for the Intermittent Use of Aircraft
FC-115: Intermittent Use Aircraft Pre-Hire Information	Appendix A: CAL FIRE Leased Aircraft Requirements Agreement
Exhibit C: General Terms and Conditions	Exhibit D: Special Terms and Conditions
STD-204: Payee Data Record	STD-205: Payee Data Record Supplement (if required)
Contractor Certification Clause (CCC)	CAL FIRE-720: Darfur Contracting Act Vendor Certification (if required)
CAL FIRE-20: Contractor Certification Clauses for Services	Contract Aerial Resource Standards (CARS)
Certificate of Insurance (COI)	

Each local government may have unique exhibits pertinent to their scope of operations utilizing public-owned and/or contracted aerial resources.

Deadline for General Contract Requirements. General contract requirements for aerial resources shall be submitted to AMU before July 1 of each year.

Expiration of Aerial Resource Agreements with Cooperators. All agreements for contract local government-owned aircraft and local government-contracted aircraft shall expire 365 days after the signature date of the FC-107RW/FW.

Aircraft Compliance. In partnership with federal agencies, federal land resource agencies (i.e., U.S. Forest Service (USFS) and Department of Interior (DOI – OAS)) offer conditional reciprocity for aircraft certification, known as “aircraft carding” or “Interagency Cooperator Letter”.

The primary resource for carding should be through the USFS or DOI – OAS.



## CHAPTER 4: LOCAL GOVERNMENT COOPERATORS

CAL FIRE AMU may provide aircraft inspections and certifications only if efforts have been exhausted to receive aircraft certification through these federal partners.

Only aircraft available for CAL FIRE reimbursement are rostered on the FC-107CC when not operating under a Fire Protection Agreement. Once inspected, each aircraft will be added to the Hired Equipment Management System (HEMS) for dispatch availability.

Aircraft Compliance Limitations – Inspections Conducted by CAL FIRE. All aircraft certified solely by CAL FIRE Aviation Maintenance Officer will receive a CAL FIRE Cooperator Letter. This Cooperator Letter **is not** accepted by the USFS and DOI for an incident where CAL FIRE is not in unified command.

Requirements for Aircraft Compliance. Cooperators seeking aircraft certification shall meet the minimum requirements in accordance with:

Table 4. Aircraft Inspection and Certification Requirements.

U.S. Forest Service Fire and Aviation Management Aircraft Inspector Guide
NWCG Standards for Interagency Cooperator Type 2 and 3 Helicopters – PMS 525-1
NASF Cooperator Aviation Standards for Interagency Fire

Additional Requirements for Contractor-Owned Aircraft. To conduct reimbursable aerial operations in support of a wildland fire outside of a Local Responsibility Area (LRA) and Mutual Threat Zone (MTZ), cooperators utilizing their own contracting mechanisms (i.e., EU or CWN) shall ensure that each aircraft meets the minimum equipment requirements outlined in each reference within Table 4.

Additionally, each commercial vendor (non-government) shall hold a valid 14 CFR Part 133, 135, and/or 137 operating certificate and aircraft rostered within the Operations Specification.

Pilot Proficiency Verification (Carding) Requirements. Each local government-employed or contract pilot shall receive an initial proficiency verification or renewal proficiency verification annually, as applicable, and in accordance with the Interagency Pilot Practical Test Standards administered by a CAL FIRE Inspector Pilot or Interagency Inspector Pilot.

Pilot Carding Limitations. All pilots certified solely by CAL FIRE Inspector Pilots will be rostered on a CAL FIRE Cooperator Letter. This Cooperator Letter **is not** accepted by the USFS and DOI – OAS for an incident where CAL FIRE is not in unified command.

CAL FIRE Inspector Pilots are prohibited from flying in an aircraft not currently inspected and certified by CAL FIRE or USFS/DOI – OAS.



## CHAPTER 4: LOCAL GOVERNMENT COOPERATORS

Pilot Carding Intervals. Pilots shall receive a pilot card (initial or renewal) each year. A practical pilot verification is required for an initial issuance of a pilot card and within 36 months since the last practical pilot verification for renewals. CAL FIRE reserves the right to require a full practical pilot proficiency verification in lieu of a renewal card.

Pilot Carding – Initial. All initial pilot carding requires a practical pilot proficiency verification conducted by a CAL FIRE Inspector Pilot for requested specific mission profiles, if an Interagency Inspector Pilot (USFS or DOI – OAS) is unavailable.

If a pilot fails to meet a total of 100 PIC hours within 365 days since the date entered on the pilot card/cooperator letter, the pilot shall conduct a practical pilot proficiency verification.

Pilot Carding – Renewal. Pilots requesting a renewal card shall submit documentation in Chapter 7 for renewal consideration.

Pilot Carding Required Documents. Chapter 7 provides guidance regarding required documents to be submitted to the assigned CAL FIRE Inspector Pilot.

Added Mission Skill. If an added mission skill is sought by a pilot, a practical pilot proficiency verification is required for the specific mission skill.





## CHAPTER 5: CAL FIRE EXCLUSIVE USE CONTRACTS

### SCOPE OF CONTRACT REQUIREMENTS FOR EXCLUSIVE USE AIRCRAFT

Overview. CAL FIRE enters into exclusive use contracts each operational year. These contracts are renewed annually and shall include general contract requirements in Table 5.

General Contract Requirements. The below table outlines general contract elements addressed within each exclusive use contracts:

Table 5. Exclusive Use General Contract Elements for Aerial Resources.

STD-213: Standard Agreement	STD-215: Agreement Summary
Exhibit A: Attachment 1 - Detailed Scope of Work	Exhibit A: Attachment 2 - Personnel Requirements
Exhibit A: Attachment 3 - Aircraft Technical Specifications	Exhibit B: Budget Detail and Payment Provisions
Exhibit C: General Terms and Conditions	Exhibit D: Special Terms & Conditions
Exhibit E: Additional Provisions	Contract Aerial Resource Standards (CARS)
Certificate of Insurance (COI)	

Exclusive Use Selection. Based upon the needs of the State, exclusive use contracts may be offered to fulfill a specialized aerial resource mission set that the department deems essential.

Exclusive Use Contract Service Life. An exclusive use contract service life is for a minimum of 90 days, beginning on the STD-213 date of signature.

Aircraft Compliance. In partnership with federal agencies, federal land resource agencies (i.e., U.S. Forest Service (USFS) and Department of Interior (DOI – OAS)) offer conditional reciprocity for aircraft certification, known as “aircraft carding” or “Interagency Cooperator Letter”.

The primary resource for carding should be through the USFS or DOI – OAS.

CAL FIRE AMU may provide aircraft inspections and certifications only if efforts have been exhausted to receive aircraft certification through these federal partners.

Only aircraft available for CAL FIRE reimbursement are rostered on the FC-107CC when not operating under a Fire Protection Agreement. Once inspected, each aircraft will be added to the Hired Equipment Management System (HEMS) for dispatch availability.



## CHAPTER 5: CAL FIRE EXCLUSIVE USE CONTRACTS

Aircraft Compliance Limitations – Inspections Conducted by CAL FIRE. All aircraft certified solely by CAL FIRE Aviation Maintenance Officer will receive a CAL FIRE aircraft inspection certification card. This aircraft certification card **is not** accepted by the USFS and DOI for an incident where CAL FIRE is not in unified command.

Requirements for Aircraft Compliance. Exclusive use contractors seeking aircraft certification shall meet the minimum requirements in accordance with:

Table 6. Aircraft Inspection and Certification Requirements.

U.S. Forest Service Fire and Aviation Management Aircraft Inspector Guide
NWCG Standards for Interagency Cooperator Type 2 and 3 Helicopters – PMS 525-1
NASF Cooperator Aviation Standards for Interagency Fire

Additional Requirements for Contractor-Owned Aircraft. Additionally, each contractor shall hold a valid 14 CFR Part 133, 135, and/or 137 operating certificate and aircraft rostered within the Operations Specification.

Pilot Proficiency Verification (Carding) Requirements. Each local government-employed or contract pilot shall receive an initial proficiency verification or renewal proficiency verification annually, as applicable, and in accordance with the Interagency Pilot Practical Test Standards administered by a CAL FIRE Inspector Pilot or Interagency Inspector Pilot.

Pilot Carding Limitations. All pilots certified solely by CAL FIRE Inspector Pilots will be issued a specific card or rostered on a CAL FIRE Cooperator Letter. This card or Cooperator Letter **is not** accepted by the USFS and DOI for an incident where CAL FIRE is not in unified command.

CAL FIRE Inspector Pilots are prohibited from flying in an aircraft not currently inspected and certified by CAL FIRE or USFS/DOI.

Pilot Carding Intervals. Pilots shall receive a pilot card (initial or renewal) each year. A practical pilot verification is required for an initial issuance of a pilot card and 36 months since the last practical pilot verification for renewals. CAL FIRE reserves the right to require a full practical pilot proficiency verification in lieu of a renewal card documentation audit.

Pilot Carding – Initial. All initial pilot carding requires a practical pilot proficiency verification conducted by a CAL FIRE Inspector Pilot for requested specific mission profiles if an Interagency Inspector Pilot (USFS or DOI) is unavailable.

If a pilot fails to meet a total of 100 PIC hours within 365 days since the date entered on the pilot card/cooperator letter, the pilot shall conduct a practical pilot proficiency verification.



## CHAPTER 5: CAL FIRE EXCLUSIVE USE CONTRACTS

Pilot Carding – Renewal. Pilots requesting a renewal card shall submit documentation in Chapter 7 for renewal consideration.

Pilot Carding Required Documents. Chapter 7 provides guidance regarding required documents to be submitted to the assigned CAL FIRE Inspector Pilot.

Added Mission Skill. If an added mission skill is sought by a pilot, a practical pilot proficiency verification is required for the specific mission skill.

Pre-Season EU Helicopter Operations and Safety Briefing. All Type I & II helicopter operators and flight crews operating under an EU contract shall attend a pre-season helicopter operations and safety briefing at the operator's expense. The goal of this briefing is to conduct FTA training and to update flight crews regarding changes of base and operating procedures.



## CHAPTER 6: CAL FIRE CALL WHEN NEEDED AGREEMENTS

### SCOPE OF AGREEMENT REQUIREMENTS FOR CALL WHEN NEEDED (CWN) AIRCRAFT

Overview. CAL FIRE enters into CWN agreements each operational year. These agreements are renewed annually and shall include general contract requirements in Table 7.

General Contract Requirements. The below table outlines general contract elements addressed within each CWN agreement.

Table 7. CWN General Contract Elements for Aerial Resources.

Cover Letter & Recent Changes	FC-107RW and/or FC-107FW: Lease Agreement for the Intermittent Use of Aircraft
FC-115: Intermittent Use Aircraft Pre-Hire Information	Appendix A: CAL FIRE Leased Aircraft Requirements Agreement
Exhibit C: General Terms and Conditions	Exhibit D: Special Terms and Conditions
STD-204: Payee Data Record	Exhibit E: Additional Provisions
Contractor Certification Clause (CCC)	STD-205: Payee Data Record Supplement (if required)
CAL FIRE-20: Contractor Certification Clauses for Services	CAL FIRE-720: Darfur Contracting Act Vendor Certification (if required)
Certificate of Insurance (COI)	Contract Aerial Resource Standards (CARS)

Each CWN agreement may have unique exhibits pertinent to their scope of operations utilizing contractor aerial resources.

Deadline for General Contract Requirements. General agreement requirements for aerial resources shall be submitted to AMU before July 1 of each year.

Expiration of CWN Agreements. All agreements for CWN aircraft shall expire 365 days after the signature date of the FC-107RW/FW.

Aircraft Compliance. In partnership with federal agencies, federal land resource agencies (i.e., U.S. Forest Service (USFS) and Department of Interior (DOI – OAS)) offer conditional reciprocity for aircraft certification, known as “aircraft carding”.

The primary resource for carding should be through the USFS or DOI – OAS.

CAL FIRE AMU may provide aircraft inspections and certifications only if efforts have been exhausted to receive aircraft certification through these federal partners.



# CHAPTER 6: CAL FIRE CALL WHEN NEEDED AGREEMENTS

Only aircraft available for CAL FIRE reimbursement are rostered on the FC-107CC when not operating under a Fire Protection Agreement. Once inspected, each aircraft will be added to the Hired Equipment Management System (HEMS) for dispatch availability.

Aircraft Compliance Limitations – Inspections Conducted by CAL FIRE. All aircraft certified solely by CAL FIRE Aviation Maintenance Officer will receive a CAL FIRE aircraft inspection certification card. This aircraft certification card **is not** accepted by the USFS and DOI for an incident where CAL FIRE is not in unified command.

Requirements for Aircraft Compliance. Exclusive use contractors seeking aircraft certification shall meet the minimum requirements in accordance with:

Table 8. Aircraft Inspection and Certification Requirements.

U.S. Forest Service Fire and Aviation Management Aircraft Inspector Guide
NWCG Standards for Interagency Cooperator Type 2 and 3 Helicopters – PMS 525-1
NASF Cooperator Aviation Standards for Interagency Fire

Additional Requirements for Contractor-Owned Aircraft. Additionally, each commercial contractor shall hold a valid 14 CFR Part 133, 135, and/or 137 operating certificate and aircraft rostered within the Operations Specification.

Pilot Proficiency Verification (Carding) Requirements. Each local government-employed or contract pilot shall receive an initial proficiency verification or renewal proficiency verification annually, as applicable, and in accordance with the Interagency Pilot Practical Test Standards administered by a CAL FIRE Inspector Pilot or Interagency Inspector Pilot.

Pilot Carding Limitations. All pilots certified solely by CAL FIRE Inspector Pilots will be issued a CAL FIRE card. This CAL FIRE card **is not** accepted by the USFS and DOI – OAS for an incident where CAL FIRE is not in unified command.

CAL FIRE Inspector Pilots are prohibited from flying in an aircraft not currently inspected and certified by CAL FIRE or USFS/DOI – OAS.

Pilot Carding Intervals. Pilots shall receive a pilot card (initial or renewal) each year. A practical pilot verification is required for an initial issuance of a pilot card and 36 months since the last practical pilot verification for renewals. CAL FIRE reserves the right to require a full practical pilot proficiency verification in lieu of a renewal card.



## CHAPTER 6: CAL FIRE CALL WHEN NEEDED AGREEMENTS

Pilot Carding – Initial. All initial pilot carding requires a practical pilot proficiency verification conducted by a CAL FIRE Inspector Pilot for requested specific mission profiles if an Interagency Inspector Pilot (USFS or DOI – OAS) is unavailable.

If a pilot fails to meet a total of 100 PIC hours within 365 days since the date entered on the pilot card/cooperator letter, the pilot shall conduct a practical pilot proficiency verification.

Pilot Carding – Renewal. Pilots requesting a renewal card shall submit documentation outlined in Chapter 7.

Pilot Carding Required Documents. Chapter 7 provides guidance regarding required documents to be submitted to the assigned CAL FIRE Inspector Pilot.

Added Mission Skill. If an added mission skill is sought by a pilot, a practical pilot proficiency verification is required for the specific mission skill.



# CHAPTER 7: CONTRACT & AGREEMENT SUBMISSION

## CONTRACT & AGREEMENT SUBMISSION REQUIREMENTS

Overview. CAL FIRE typically processes over 115 contracts/agreements comprising of approximately 300 aircraft every year. Timely and accurate submission of contracts and agreements are essential to ensure optimal aerial resource coverage across the State. This section outlines specific requirements for submitting contracts and agreements by contractors and cooperators.

Contract Counties will comply with steps 1-5, 10-14 (step 12 as applicable), and interface with the Contract Counties Deputy Chief.

Method of Submission. CAL FIRE will accept contracts or agreements via the following methods:

<b>CWN/Exclusive Use</b>	DocuSign
<b>Local Government Cooperator Agreements</b>	DocuSign – preferred  Paper/Mail – as required by local government business rules
<b>Contract Counties</b>	DocuSign – preferred  Paper/Mail – as required by local government business rules

The following instructions are required in order of precedence. These directions shall be carefully followed. Incomplete or inaccurate information may delay your contracts/agreements.



# CHAPTER 7: CONTRACT & AGREEMENT SUBMISSION

## STEP 1. Request for Aircraft Inspection Certification (“Aircraft Carding”) and Pilot Proficiency Verification (Pilot Carding) – Initial or Renewal

- a. Contact DOI – OAS or USFS to schedule an aircraft carding inspection. CAL FIRE will confirm with OAS or USFS that this attempt was made prior to accepting CAL FIRE carding requests.
- b. If DOI – OAS or USFS is unavailable, please email the below programs to request a CAL FIRE inspection:

REQUESTS FOR:	EMAIL ADDRESS FOR REQUESTS	EMAIL SUBJECT LINE
Helicopter Aircraft & Pilot Carding	RW.CWN.Management@fire.ca.gov	<b><i>RW AIRCRAFT CARDING REQUEST or RW PILOT CARDING REQUEST</i></b>
Air Rescue Carding	RW.CWN.Management@fire.ca.gov	<b><i>AIR RESCUE CARDING REQUEST</i></b>
Fixed-Wing Aircraft & Pilot Carding	FW.CWN.Management@fire.ca.gov	<b><i>FW AIRCRAFT CARDING REQUEST or FW PILOT CARDING REQUEST</i></b>

**CAUTION**

**CAL FIRE CARDED AIRCRAFT AND PILOTS MAY ONLY OPERATE WITHIN THE STATE RESPONSIBILITY AREAS OF CALIFORNIA OR ON A FEDERAL-STATE UNIFIED COMMAND.**

**UNDER NO CIRCUMSTANCES DOES A CAL FIRE CARD GRANT RECIPROCITY TO OPERATE ON FEDERAL ONLY INCIDENTS.**





## CHAPTER 7: CONTRACT & AGREEMENT SUBMISSION

### STEP 2. Aircraft Carding Preparation

The primary resource for carding should be through the USFS or DOI – OAS.

CAL FIRE AMU may provide aircraft inspections and certifications only if efforts have been exhausted to receive aircraft certification through these federal partners.

- a. For initial aircraft carding – aircraft that have never received a carding inspection, allow for extra time and contact the assigned CAL FIRE Aviation Maintenance Officer for process guidance.
- b. Carefully review all aircraft equipment and inspection requirements in Table 2, 4, 6, or 8, as applicable to contract type.
- c. Have maintenance records up to date and available for the CAL FIRE Aviation Maintenance Officers.
- d. Have maintenance personnel available to assist the CAL FIRE Maintenance Officers during the inspection.
- f. Additional requirements to emphasize for specialized mission sets are outlined below in Table 9.

Table 9. Additional Equipment for Specialized Missions.

Mission	Required Equipment	Preferred Equipment
HLCO – Day	(2) VHF-AM & (2) VHF-FM transceivers	(3) VHF-AM & (3) VHF-FM transceivers
	Additional AUX plug	Additional AUX plug
HLCO – Night <sup>1</sup>	Dual engine <sup>2</sup>	FLIR
	NVG-compatible cockpit lighting	EO/IR

Note 1: Must meet all day requirements.

Note 2: May be waived at the discretion of the CAL FIRE Helicopter Program Manager

**NVG Compatible Lighting.** Aircraft light modifications shall be compatible with the NVG classification used for flight. Modification of aircraft lighting should be compatible with the class of Night Vision Goggles (NVG) used.

All work performed shall meet all applicable STC Standards and the Radio Technical Commission for Aeronautics (RTCA) DO-275 Minimum Operational Performance for Integrated Night Vision Imaging Systems. RTCA DO-275 is available at [RTCA.org](http://RTCA.org).



## CHAPTER 7: CONTRACT & AGREEMENT SUBMISSION

Military Federal Excess Property aircraft that have been modified for NVG will need to have Military Specification (MILSPEC) compatibility for the NVG classification being used.

Specific Mission Carding Requirements for HLCO NVG Operations. For consideration to conduct HLCO operations within the FTA the aircraft shall be carded as follows:

- Air Tactical 1 (Table 9-Required Equipment)
- Passengers, Cargo, and Crew Transport
- Low-Level (500 feet AGL and below)

The low-level aircraft carding requirement for HLCO is based on the possibility of operating below 500 feet AGL in case of an aircraft emergency where an immediate landing is required or during an Incident Within an Incident (IWI) when the HLCO aerial resource may be required to assist.

### STEP 3. Pilot Practical Proficiency Verification Carding Preparation

- a. To expedite the approval and carding of pilots, the following information in Table 10 shall be completed and submitted to the assigned CAL FIRE Inspector Pilot prior to the practical proficiency verification flight or renewal.
- b. Ensure required equipment is installed on the aircraft for the specific mission skill being checked.
- c. Ensure all paper copies of paperwork is available to the Inspector Pilot (i.e., aircraft card and Table 10 data).

Table 10. Pilot Carding Documentation – Initial and Renewal

Previous FS-5700, if applicable	Current FS-5700	
Prior CAL FIRE or Interagency Pilot Card	FAA Pilot Certificate	
FAA Medical (EKG as required)	Copy of 14 CFR Part 135 Airman Competency/Proficiency Check (FAA Form 8410-3), as applicable	
Copy for 14 CFR Part 133 (Helicopter) or 137 (Air Tanker or Helitanker) Competency Endorsement, as applicable	IAT Courses ( <a href="http://www.iat.gov">www.iat.gov</a> ) – Helicopters Only	
	MH-1, 2, & 3	A-110 (Aviation Transport of HAZMAT)



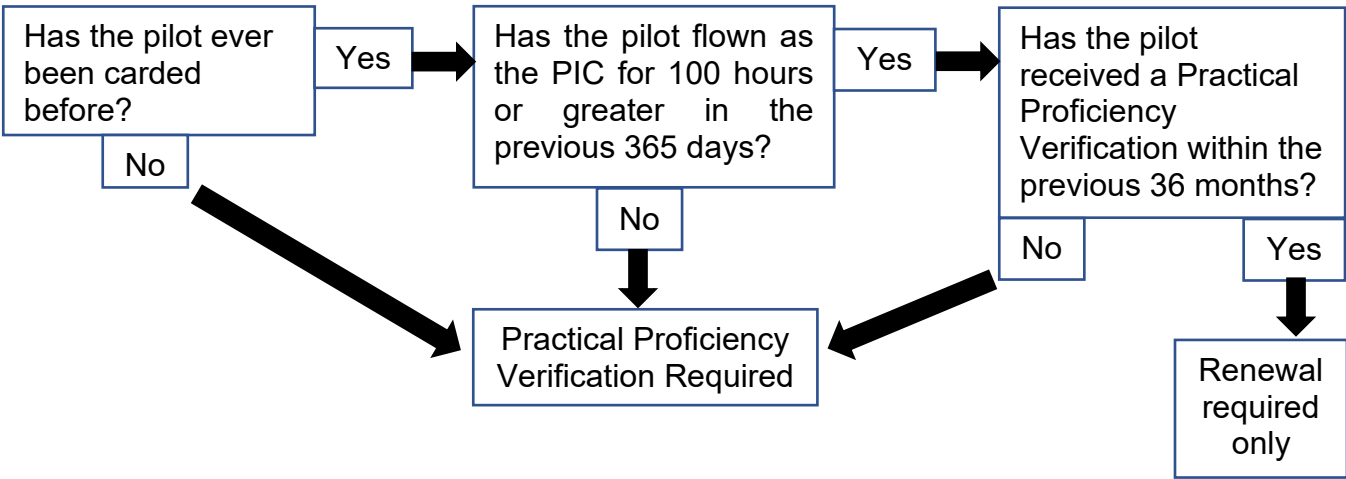
# CHAPTER 7: CONTRACT & AGREEMENT SUBMISSION

## STEP 4. Pilot Proficiency Verification Carding Preparation – Renewal

- a. Submit Table 10 data to the assigned Inspector Pilot
- b. If a pilot is employed by more than one contractor, the pilot must have a pilot proficiency verification card associated with each contractor.

The following flowchart (Figure 1) provides guidance to determine the requirement for a practical pilot proficiency verification.

Figure 1. Practical Pilot Proficiency Verification Requirement.





## CHAPTER 7: CONTRACT & AGREEMENT SUBMISSION

### STEP 5. FC-107 RW/FW/CC

1. Read and comply with the instructions on Page 2 of the FC-107RW/FW/CC document. **Your business name and address must match your invoices exactly or there will be a delay in payment. They also must match your tax record on file.**
2. CAL FIRE will give preference to California Certified Small Business (SB) or DVBE businesses. If current, enter your SB or DVBE number in this blank. Also, provide the certificate number and date of expiration of the SB or DVBE certification in the REMARKS section of the FC-107RW/FW form.
3. Leave the agreement number block blank.

**Failure to enter your SB or DVBE expiration date in the remarks section may result in your SB/DVBE status not being considered.**

4. Rate with Pilot Block: Ensure all costs associated with flight operations, maintenance, use of specialized equipment, lodging, meals, and personnel costs (in addition to the pilot) is calculated in the cost per flight hours block.
  - No fueling is provided for CWN light fixed-wing aircraft. All light fixed-wing aircraft are contracted at wet rates.
  - No fueling is provided for CWN helicopters. All helicopters are contracted at wet rates.

#### CONTRACT COUNTY NOTE

Following the California Attorney General opinion, 83-609 of December 30, 1983: "direct costs" used in the calculation of the FC107CC hourly *Rate w/Pilot* equate to direct costs of SRA fire protection. Administrative overhead, funding towards aircraft improvements, and funding towards aircraft acquisitions does not constitute "direct costs."

5. Helicopter Standby Rate: Do not calculate the standby rates. Annotate only the number of standby hours allotted for aircraft type.
  - ICS Type 1: (4) hours
  - ICS Type 2: (3) hours
  - ICS Type 3: (2) hours
6. Fixed Wing Standby Rates: Established by operator.
7. Additional Charges: Enter any additional costs associated with special equipment in the blank blocks (i.e., FLIR, EO/IR, Aerial Ignition, etc.)



## CHAPTER 7: CONTRACT & AGREEMENT SUBMISSION

### STEP 6. Appendix A: CAL FIRE Leased Aircraft Requirements Agreement

- a. This is a binding agreement or contract, as applicable.

### STEP 7. STD 204/205: Payee Data Record

- a. Enter all required information pertaining to the contractor business information to process payment. It is essential that the address on the FC-107RW/FW matches the address on the STD-204 (and STD-205 if required).
- b. Once this document is completed and received, CAL FIRE will issue the contractor a "Vendor Number." This document must be completed clearly and completely.

### STEP 8. CAL FIRE-20: Contractor Certification Clauses for Services, Contractor Certification Clause (CCC), and CAL FIRE-720: Darfur Contracting Act Vendor Certification

- a. The CAL FIRE-20 and CCC forms contain clauses and conditions that may apply to your agreement and to personnel conducting business with the State of California.
- b. It is essential to provide a signature and initial where required. Failure to do so will prohibit the State of California from doing business with your company.
- c. Blank 1 (a) or (b) on the CAL FIRE-20 form requires initials. If the contractor has conducted business activities outside of the United States in the previous three years, the CAL FIRE- 720 form is required.
- d. If the contractor has NOT conducted business activities outside of the United States in the previous three years – do not complete the CAL FIRE-720 form.

### STEP 9. Contractors from Outside the United States

- a. All contractor aircraft from outside the United States shall comply with the U.S. Department of Transportation – Federal Aviation Administration Advisory Circular number 00-60B providing information and guidance for operators under the provisions of the North American Free Trade Agreement (NAFTA) and operational guidance within the three Civil Aviation Authorities (CAA).



## CHAPTER 7: CONTRACT & AGREEMENT SUBMISSION

- b. For foreign operators, submit an Internal Revenue Service Form:
  - W8BEN: Certificate of Status of Beneficial Owner for United States Tax Withholding and Reporting; or
  - W8BEN-E: Certificate of Entities Status of Beneficial Owner for United States Tax Withholding and Reporting (electronic)

### STEP 10. Current Copy of Aircraft Interagency Data Card(s) or CAL FIRE Aircraft Cards

- a. For each aircraft rostered on the FC-107CC, RW, or FW
- b. If an aircraft card is not included, provide explanation why the card is not included and estimated aircraft carding completion date.

### STEP 11. Current Copies of Pilot Cards

- a. Submit DocuSign form to include current pilot cards (front and back), and CARS compliance signature page via the link provided in the solicitation checklist (Page 2 of the solicitation checklist).

### STEP 12. Copy of 14 CFR Part 133, 135, and/or 137 Operating Certificates

- a. Include all operating certificates applicable and Operations Specifications rostering each aircraft on the FC-107RW/FW.
- b. Contract counties that roster exclusive use aircraft shall provide copies of 14 CFR Part 133, 135 and/or 137 Operating Certificates, as applicable.

### STEP 13. Certificate of Insurance (COI)

- a. Include a copy of the current COI for all required coverages below.

### INSURANCE REQUIREMENTS SCM 7.40

#### General Provisions Applying to All Policies

- a. Deductible and Premiums
  - Contractor is responsible for any deductible or self-insured retention contained within the insurance program.
  - The Department will not provide for nor compensate Contractor for any insurance premiums or costs for any type or amount of insurance.



## CHAPTER 7: CONTRACT & AGREEMENT SUBMISSION

- b. Coverage Term and Policy Cancellation or Termination
- Coverage must be in force for the complete term of this Agreement. If insurance expires during the term of this Agreement, a new certificate must be received by CAL FIRE project representative at least ten (10) days prior to the expiration of the insurance. Any new insurance must continue to comply with the original terms of this Agreement.
  - Contractor shall provide, to CAL FIRE project representative within five (5) business days, following receipt by Contractor, a copy of any cancellation or non-renewal of insurance required by this Agreement. In the event Contractor fails to maintain the specified insurance coverage, the State may, in addition to any other remedies it may have, terminate this Agreement upon the occurrence of such event, subject to the provisions of this Agreement.
- c. Primary Clause: Any required insurance contained in this contract shall be primary, and not excess or contributory, to any other insurance carried by the State.
- d. Endorsements: Any required endorsements requested by the State must be physically attached to all requested certificates of insurance and not substituted by referring to such coverage on the certificate of insurance.
- e. The Department will not provide for nor compensate Contractor for any insurance premiums or costs for any type or amount of insurance.
- f. Insurance Carrier Required Rating: All insurance companies must carry a rating acceptable to the Department of General Services, Office of Risk and Insurance Management (ORIM). If Contractor is self-insured for a portion or all of its insurance, review of financial information including a letter of credit may be required. Department of General Services, ORIM Website: <https://www.dgs.ca.gov/ORIM>.
- g. When Contractor submits a signed contract to the State, Contractor shall furnish to the State a certificate of insurance stating that all required insurance is in effect for the Contractor.

### General and Commercial Liability Insurance

- a. Contractor shall provide commercial general liability insurance of not less than \$1,000,000.00 per occurrence for bodily injury and property damage liability combined in effect for the Contractor.



## CHAPTER 7: CONTRACT & AGREEMENT SUBMISSION

- b. The policy shall include coverage for liabilities arising out of premises, operations, independent contractors, products, completed operations, personal and advertising injury, and liability assumed under an insured Agreement. This insurance shall apply separately to each insured against whom claim is made or suit is brought subject to Contractor's limit of liability.
- c. The certificate of insurance will include the following provision in its entirety:
- d. That the State of California, its officers, agents, employees, and servants are included as additional insured, but only insofar as the operations under this contract are concerned.
- e. The additional insured endorsement must accompany the certificate of insurance.
- f. This endorsement must be supplied under form acceptable to the Department of General Services, Office of Risk and Insurance Management.

### Worker's Compensation Insurance

- a. Contractor shall provide Worker's Compensation Insurance with Waiver of Subrogation in favor of the State of California. Employer's liability shall be not less than \$1,000,000.00. The following clause should be included: "Waiver of Subrogation in favor of the State of California or in favor of CAL FIRE:" By signing this Agreement, the Contractor hereby warrants that it carries Workers'

Compensation Insurance on all of its employees who will be engaged in the performance of this Agreement. If Staff provided by the Contractor is defined as independent contractors, this clause does not apply.

### Commercial Automobile Insurance on Owned, Hired, and/or Non-Owned Vehicles.

- a. Contractor shall provide Commercial Automobile Insurance on Owned, Hired, and/or Non-Owned vehicles of not less than \$1,000,000.00 policy. The same additional insured designation and endorsement required for general liability is to be provided for this coverage.

### Aircraft Liability

- a. Contractor shall maintain Aircraft Liability with limits of not less than \$3,000,000.00 per occurrence and not less than \$6,000,000.00 aggregate. The same additional insured designation and endorsement required for general liability is to be provided for this coverage.





## CHAPTER 7: CONTRACT & AGREEMENT SUBMISSION

### Available Coverages/Limits

- a. In the event the insurance coverages obtained by Vendor is broader in scope than, and/or the limits are higher than, those required under the contract, all such broader coverage and/or higher limits available to Vendor shall also be available and applicable to the State.

### **STEP 14. Contract Aerial Resources Standards (CARS) Compliance**

- a. **The Contractor owner, CEO, Director of Operations, or Chief Pilot, and each operator, each mechanic, and each fuel truck driver shall agree to and sign the CARS Compliance Form.**



## CHAPTER 8: CAL FIRE ORGANIZATION

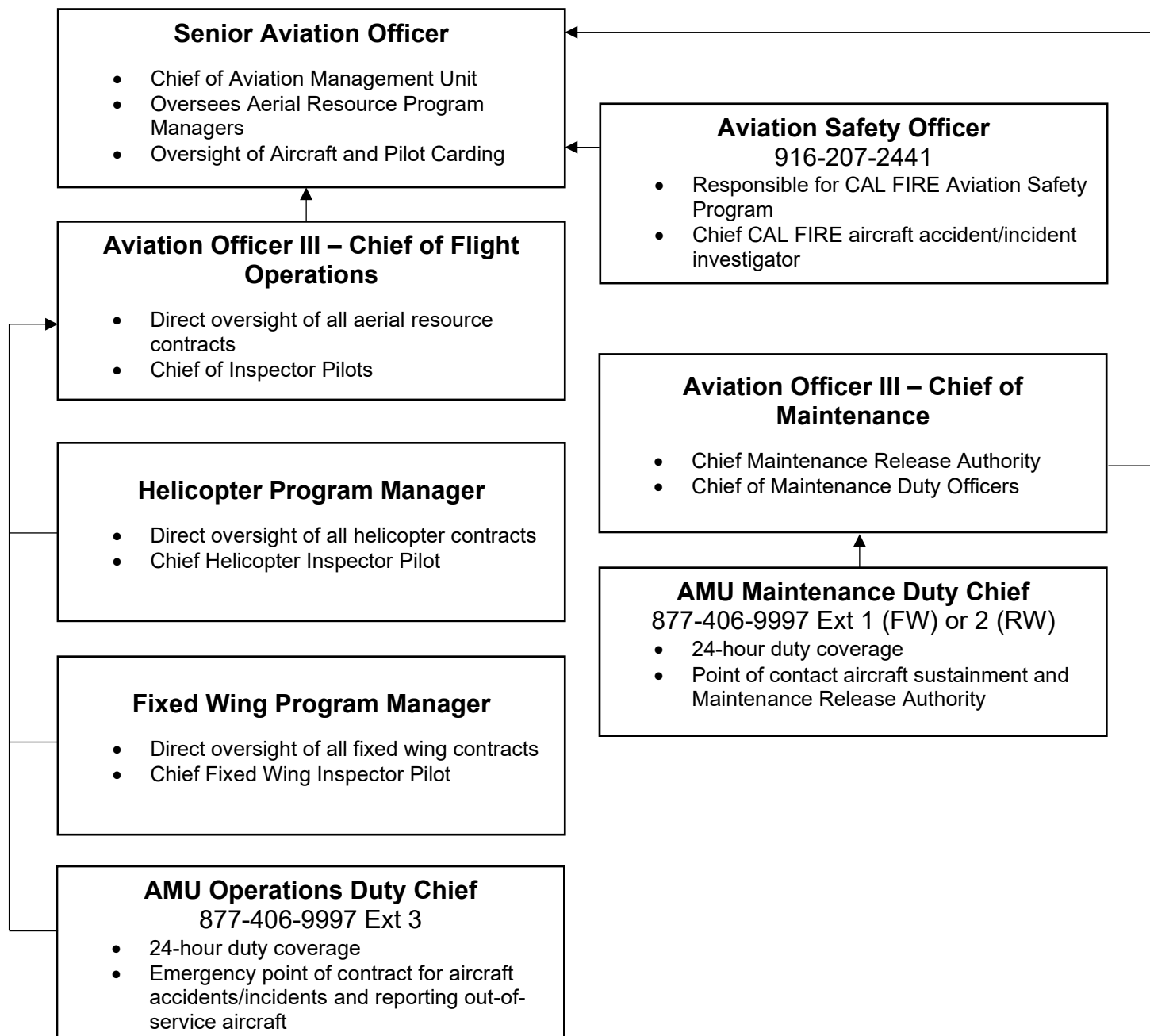
### CAL FIRE ORGANIZATION FOR AERIAL RESOURCE CONTRACTOR

Overview. The success of the partnership requires the flow of information to be timely, accurate, and to follow a chain of command. The following organization charts provide a quick view of the chain of command at three levels:

- CAL FIRE Aviation Management Unit – Contract Administration
- CAL FIRE Air Attack, Airtanker, & Helitack Bases – Field Operations

Figure 2 provides an outline of the administrative chain of command within the CAL FIRE organization.

Figure 2. CAL FIRE Organization for Contract Aerial Resources.

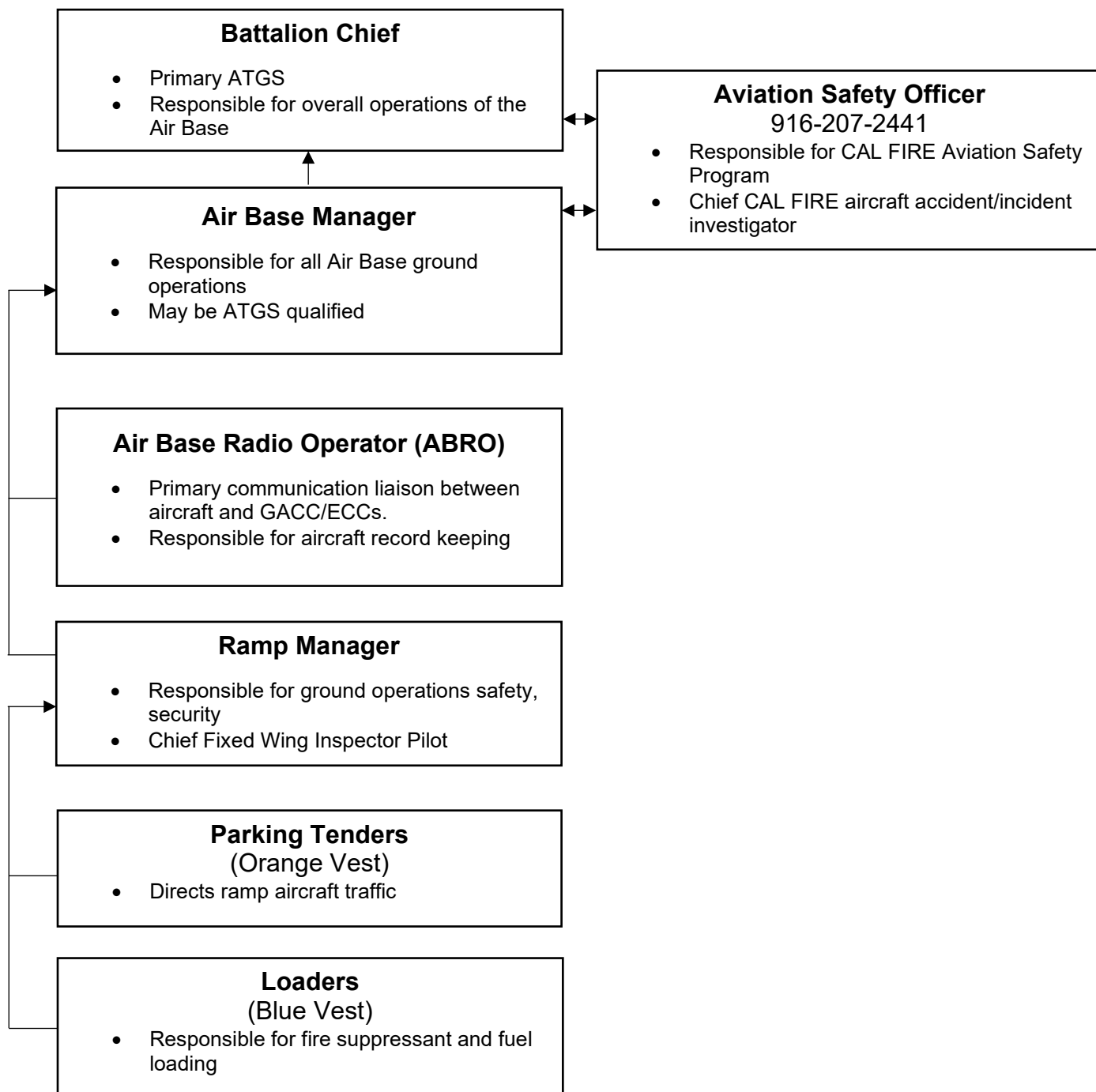




## CHAPTER 8: CAL FIRE ORGANIZATION

Figure 3 provides an outline of the typical air base operational chain of command within the CAL FIRE organization.

Figure 3. CAL FIRE Air Base Organization for Contract Aerial Resources.





## CHAPTER 8: CAL FIRE ORGANIZATION

### FIELD POSITIONS

Air Operations Branch Director (AOBD). The AOBD supervises all air operation activities, prepares the air operations portion of the Incident Action Plan (IAP), implements its strategic aspects, and provides logistical support to aircraft operating on the incident.

Air Tactical Group Supervisor (ATGS). The Air Tactical Group Supervisor (ATGS) coordinates incident airspace, manages incident air traffic, and is the link between ground personnel and incident aircraft. The ATGS is an airborne firefighter who coordinates, assigns, and evaluates the use of aerial resources in support of incident objectives.

Helicopter Coordinator (HLCO). The Helicopter Coordinator (HLCO) coordinates helicopter mission(s) and incident airspace, manages incident air traffic, and is the link between ground personnel and incident aircraft. The HLCO is an airborne firefighter who coordinates, assigns, and evaluates the use of aerial resources in support of incident objectives.

Air Tanker Base Manager (ATBM). The Airtanker Base Manager is a technical specialist functioning under coordination and support. The ATBM is responsible for managing all flight and payment records for CWN and EU fixed wing aircraft assigned to their base. The ATBM may report to an Air Support Group Supervisor or other appropriate Aviation Manager.

Helibase Manager (HEBM). The Helibase Manager has primary responsibility for managing all activities at the assigned helibase. Within the ICS system, the Helibase Manager is supervised by the Air Support Group Supervisor. On projects, the Helibase Manager may report to an Air Support Group Supervisor or Air Operations Branch Director if these positions are assigned.

Helicopter Manager (HMGB). The HMGB, provides supervision and coordination of helicopter module operations. The HMGB supervises assigned crewmembers and reports to a Helibase Manager (HEBM), Air Support Group Supervisor (ASGS), Incident Commander (IC), or other assigned supervisor. The HMGB works in the Air Operations functional area.



## CHAPTER 8: CAL FIRE ORGANIZATION

### CONTACT INFORMATION

<b>Contact Information</b>	
CAL FIRE VHF-AM (always monitored)	122.925
VHF-FM Air Guard (always monitored)	168.625, Tone 1 (110.9)
Base VHF-AM (Base Victor)	McClellan: 122.825 All Other Bases: 122.675
CAL FIRE AMU Operations Duty Chief (24/7)	(877) 406-9997 Ext 3
CAL FIRE AMU Maintenance Duty Chief (24/7)	(877) 406-9997 Ext 1: FW Ext 2: RW
Aviation Safety Officer	(916) 207-2441
Accident, Incidents, & SAFECOMs	(916) 207-2441 or (877) 406-9997 Ext 3
GACC (North Ops)	(530) 224-2466
GACC (South Ops)	(951) 320-6175
Helicopter Contracting	RW.CWN.Management@fire.ca.gov
Fixed Wing Contracting	FW.CWN.Management@fire.ca.gov
Helicopter Location Change Updates	CWN.Helicopter@fire.ca.gov



# CHAPTER 9: FLIGHT MANAGEMENT

## FLIGHT AUTHORIZATION

CWN Helicopter Resource Order – Initial Hire. CWN contractors will be contacted by an ECC, GACC, or AMU to hire an aerial resource to a specific area of responsibility or incident. The ECC, GACC, or AMU will provide a Resource Order.

CWN Fixed Wing Resource Order – Initial Hire. CWN contractors will be contacted by an AMU to hire an aerial resource to a specific area of responsibility or incident. AMU will provide a Resource Order.

CWN Point of Hire. A CWN aerial resource will be compensated from the location which the aerial resource is located at the moment of hire to the specified area of responsibility or incident.

Figure 4. Resource Order

RESOURCE ORDER		Initial Date/Time		2. Incident / Project Name				3. Incident / Project				Financial Codes					
AIRCRAFT		02-16-2022 1241 PST		AIRPORT				CA-BDU-002479				PN PF9S (1522) [P]					
5. Descriptive Location Bishop				6. TWN		RNG		SEC		Base MDM		8. Incident Base / Phone Number					
				7S		33E		SN50		Mt. Diablo, CA		ECC FLOOR BUSINESS LINE BDU ECC: 909-881-6916 ECC FLOOR BUSINESS LINE BDU ECC: 909-883-1112 ECC EXPANDED CREWS BDU Expanded Crews: 909-881-6975 Main Incoming bdueccstaff@fire.ca.gov ECC EXPANDED OVERHEAD BDU Expanded Overhead: 909-881-6991 ECC EXPANDED SUPPLY BDU Expanded Supply: (909)881-6992 ECC EXPANDED FAX BDU Expanded Fax: 909-881-6990 Receptionist (909) 881-6970 ECC EXPANDED SUPERVISOR ECC Expanded Supervisor: 909-881-6977 ECC EXPANDED EQUIPMENT BDU Expanded Equipment: 909-881-6976 Receptionist (909) 883-1112 ECC FLOOR FAX BDU ECC Fax: 909-881-6970					
				LAT. 37° 22' 9" N		LONG. 118° 22' 18" W						10. Ordering Office San Bernardino Emergency Command Center					
11. Aircraft Information																	
Bearing		Distance		VOR		Contact Name		Frequency Type		Assigned Frequency		Reload Base		Other Aircraft / Hazards			
194.24°		1		BIH				AirTactics		166.6125		HMT					
204.75°		48		OAL				AirToAir		123.8750		WJF					
62.06°		61		FRA		CDF T20		AirToGround		159.3750 16		BIH					
						CDF CMD 01		Command		RX: 151.3550 TX:159.300 1		SBD					
						CDF T28		Tactical		151.1825 16							
						CDF T29		Tactical		151.3475 16							
12. Request Information																	
12. Request Number	Ordered Date/Time	From	To	Qty	Resource Requested	Needed Date/Time	Deliver To	From Unit	To Unit	Assigned Date/Time	Resource Assigned Unit ID	Resource Assigned	M/D Ind	Estimated Time Of Departure	Estimated Time Of Arrival	Released Date	Released To
A-40	2022-02-23 1606 PST	ECC FLOOR BUSINESS LINE BDU ECC:	CA-BDCC	1	Service - Infrared Flight	2022-02-23 1700 PST	AIRPORT CA-BDU-002479	CA-BDCC	CA-OSCC			Pending					
12. Request Information																	
12. Request Number	Ordered Date/Time	From	To	Qty	Resource Requested	Needed Date/Time	Deliver To	From Unit	To Unit	Assigned Date/Time	Resource Assigned Unit ID	Resource Assigned	M/D Ind	Estimated Time Of Departure	Estimated Time Of Arrival	Released Date	Released To
		PN PF9S (1522)					SITL DATA DELIVERY POINT										
13. User Documentation																	
Req. No.	Documentation												Entered By				
A-40	[AUTO] Request was placed up from San Bernardino Emergency Command Center to Southern California Geographic Area Coordination Center												ialamillo 2022-02-23 1607 PST				
A-40	INTEL ADVISED												ialamillo 2022-02-23 1607 PST				



## CHAPTER 9: FLIGHT MANAGEMENT

FC-115 Pre-Hire Information Form. This form is a part of the solicitation package. Section 1 shall be completed before departing point of Section 2 and 3 will complete by CAL FIRE upon arrival.

Immediate Dispatch Prior to Check-In. If the aircraft is immediately pressed into service without checking in, automatic flight following takeoff time shall be utilized as the time of departure. By the end of the first day, the aircraft shall be formally checked in by the Helicopter Manager or Air Tanker Base Manager (ATBM).

FC-106: Interagency Aircraft Dispatch Form (All contract types). Once an aircraft arrives at the Air Base or Incident and completes the check-in/pre-use inspection process (as applicable), the aerial resource will be available for dispatch. A FC-106 will be issued for any dispatch when not assigned to an incident helibase.

Dispatch Window. Pilots shall be available for immediate dispatch within 15 minutes while on duty.

**If the pilot cannot respond within 15 minutes, a notification shall be made to the ATBM or Helibase Manager regarding the delay.**

Flight Records. All applicable flight and payment records shall be completed by the Helicopter Managers and/or ATBM. Flight and payment records are listed in Table 11.

Table 11. Flight and Payment Records

Electronic Aircraft Management System of Record	CAL FIRE-62: Emergency Aircraft Use Invoice
CAL FIRE-63: Helicopter Daily Cost Worksheet – as applicable	Air Operations Worksheet
SAFECOMs – as applicable	

Contract Aerial Resources Demobilization (DEMOB). When a contract aerial resource is released from an incident, all records in Table 11 will be finalized and submitted for reconciliation.

Additionally, a [CAL FIRE-230: Vendor Evaluation Form](#) shall be submitted to:

- Helicopter: [RW.CWN.Management@fire.ca.gov](mailto:RW.CWN.Management@fire.ca.gov)
- Fixed Wing: [FW.CWN.Management@fire.ca.gov](mailto:FW.CWN.Management@fire.ca.gov)



## CHAPTER 9: FLIGHT MANAGEMENT

Leaving the Incident. CWN aerial resources will be compensated for no greater than the flight back to the point of hire. If a CWN aerial resource travels to a location that is less than the distance to the point of hire, the contractor will be compensated for only that distance. Sanctions against a vendor may be pursued if the vendor misrepresents their destination.





## CHAPTER 10: FLIGHT PLANNING & SUPPORT

### STANDARD MINIMUM AIRCRAFT STAFFING

Minimum Aircraft Staffing Requirements. All contracted aircraft shall operate with the required flight crew prescribed by each aircraft operator's manual.

Minimum Support Personnel. A mechanic shall be assigned and available for each aircraft and cannot be shared between different worksites.

Type I and II Helicopter FSVD and mechanics may serve a dual role at a base.

Type III helicopter mechanics shall be available on a 3-hour recall status. A full-time FSVD is required at the base.

Any ordered extended standby shall comply with the following maximum limits for personnel:

Type Aircraft	Number of Personnel Allowed for Extended Standby
Type I Helicopter	1 pilot (1 SIC if required by the aircraft operator's manual); 8 maintenance personnel (includes FSVD)
Type II Helicopter	1 pilot; 4 maintenance personnel (includes FSVD)
Type III Helicopter	1 pilot; 3 maintenance personnel (includes FSVD)
Type I Air Tanker	1 pilot (all other flight crew if required by the aircraft operator's manual); 3 maintenance personnel
VLAT	All required flight crew; 4 maintenance personnel
Air Tactical/Intel/Recon (FW)	Pilot (and sensor operator where applicable)

Approved Mechanic Schedule. Vendors may allow mechanics to work a duty schedule of 14 consecutive days on shift, and 14 consecutive days off shift.

Mechanic Mandatory Time Off.

Mechanics will have two (2) 24-hour time periods off duty during any 14-day period, unless a 14 on 14 off work schedule is approved by the designated contract representative. Days need not be consecutive.



## CHAPTER 10: FLIGHT PLANNING & SUPPORT

Relief mechanics reporting for duty may be required to furnish a record of all duty time during the previous 14 days.

Mechanic Availability Requirements. A mechanic shall be assigned and available for each aircraft. Mechanics may not be shared between different worksites.

The mechanic is allowed to fly on repositioning flights.

### MISSION PLANNING

Preflight Planning. At a minimum, the PIC shall be familiar with applicable performance data at all intended and alternate airfields, weather for the route of flight, fuel reserve requirements, aircraft weight and balance, flight restrictions as applicable, NOTAMs, special use airspace, and Air Defense Identification Zones.

Prior to any flight, the PIC shall ensure that all required risk management analyses are performed in accordance with Chapter 12 to identify potential hazards and mitigation strategies.

Use of Public Airports & Helipads. Aircraft are authorized to use public airport facilities applicable to aircraft type. Operators shall observe all normal traffic patterns, procedures, and ATC instructions within the terminal area. Compliance with local rules and policies is mandatory.

PICs shall adhere to each airport runway Aircraft Classification Number (ACN) and Pavement Classification Number (PCN) prior to usage, including weight restrictions on all helipads and movement areas.

Performance Data. The PIC shall assess departure, destination, and alternate field conditions, and all enroute segments to ensure the flight complies with aircraft operator's manual performance requirements. During operations at high density altitudes, the PIC is the final authority on reducing fuel, fire suppressants, and/or cargo weight.

Power Trend Analysis (Helicopters Only). A complete power trend analysis shall be conducted in accordance with the aircraft operator's manual and logged prior to departing for the first flight of the day.

All power trend results shall be provided to the Helicopter Manager.

Fixed Wing Minimum Runway Length. Except in the event of an emergency, the PIC shall comply with all minimum runway length calculations based on current aircraft takeoff and landing data for the given conditions.

Weather Briefing. In accordance with 14 CFR Part 91.103, the PIC is responsible to receive an aviation weather briefing encompassing forecasted weather at the point of departure, enroute, and destination from a government-sanctioned aviation weather



## CHAPTER 10: FLIGHT PLANNING & SUPPORT

services or a dedicated aviation weather subscription service. A daily fire weather brief does not relieve the PIC of receiving an aviation weather brief. Flight crew attendance is mandatory for each morning brief.

Aircraft and Aeronautical Publications. The use of an Electronic Flight Bag (EFB) is authorized in lieu of paper publications and aeronautical charts. Each EFB shall be at least 75 percent charged prior to flight and have an aircraft charging source within the aircraft while remaining usable for flight operations. All aeronautical data information shall be updated daily for California, Oregon, and Nevada prior to startup.

Approved EFB Applications. All EFB applications are for reference only and shall not be utilized as the sole means of navigation. The following applications are approved for EFB use:

- Foreflight
- Avenza Maps
- Gaia GPS
- TracPlus
- Google Earth
- Flight Risk Assessment Tool (FRAT)

Fixed Wing Fuel Reserve Planning Requirements. Under day VFR conditions (considering wind and forecast weather conditions) enough fuel shall be carried to operate at least 30 minutes beyond reaching the first point of intended landing at normal cruising airspeed.

Under night VFR conditions (considering wind and forecast weather conditions) enough fuel shall be carried to operate at least 45 minutes beyond reaching the first point of intended landing at normal cruising airspeed.

Helicopter Fuel Reserve Planning Requirements. Under day VFR conditions (considering wind and forecast weather conditions) enough fuel shall be carried to operate at least 20 minutes beyond reaching the first point of intended landing at normal cruising airspeed.

Under night VFR conditions (considering wind and forecast weather conditions) enough fuel shall be carried to operate at least 30 minutes beyond reaching the first point of intended landing at normal cruising airspeed.

Weight and Balance. Prior to any flight, the PIC shall ensure that a weight and balance calculation has been completed based on the actual loading of the aircraft. The PIC shall be familiar with any anticipated operations during the flight that will significantly change aircraft weight and balance (e.g., fire suppression, cargo loading, passenger embarkation, etc.).

Notice to Air Missions (NOTAMS). The PIC shall be familiar with all NOTAMs and Temporary Flight Restrictions (TFRs) for the planned route of flight.



## CHAPTER 10: FLIGHT PLANNING & SUPPORT

DROTAMS. The PIC shall be familiar with all DROTAMs for the planned route of flight.

Special Use Airspace (SUAs). All flights shall adhere to 14 CFR Part 73 for entry into and operations within special use airspace.

All operations within SUAs shall be coordinated with the controlling agency prior to entry. Two-way communications with the controlling agency shall be maintained when practicable. CAL FIRE has a Memorandum of Understanding for the R-2508 complex. Reference the [R-2508 Complex User Brief](#) prior to operating within this airspace.

Once completed with the R-2508 Complex User Brief, email [2508CCF@us.af.mil](mailto:2508CCF@us.af.mil) and copy to [RW.CWN.Management@fire.gov](mailto:RW.CWN.Management@fire.gov) or [FW.CWN.Management@fire.gov](mailto:FW.CWN.Management@fire.gov).

Email must contain:

Subject: R-2508 User Brief Attendance <Name> <Company>

Body: <Title>  
<Name>  
<Company>  
<CWN, EU, or Cooperator>

Air Defense Identification Zones. In accordance with the National Mobilizations Guide, mobilizations involving the United States and Mexico for fires within ten (10) miles either side of the United States/Mexico international border are defined in the Wildfire Protection Agreement between the Department of the Interior and the Department of Agriculture of the United States and the Secretariat of Environment, Natural Resources, and Fisheries of the United Mexican States for the Common Border.

In accordance with the Protocol for Aviation is found within the National Aviation Safety Plan, aircraft entering Mexican airspace must follow established protocols and communicate mission details to the appropriate Interagency Dispatch Center. Aircraft shall not enter Mexican airspace without consent from the coordinating authorities and concurrence from the identified aerial supervision. Permission must be received from National Forestry Commission of Mexico (CONAFOR) prior to entering Mexican airspace.

Helicopter Night Fire Suppression Operations – Initial Attack. Night fire suppression operations shall only be conducted utilizing NVGs and in accordance with this section. NVG operations shall only be conducted by flight crews current and qualified. Prior to dispatching an NVG-capable aerial resource, ECCs and Incident Commanders shall determine with the at-scene ground resource(s) that at a minimum, one of the following criteria exists:



## CHAPTER 10: FLIGHT PLANNING & SUPPORT

- Immediate threat to life
- Immediate threat to structures
- Immediate threat to critical infrastructure
- Threat of significant fire growth

Helicopter Night Fire Suppression Operations – Extended Attack. Night fire suppression operations shall only be conducted after completing *ICS-800 Night Flying Guidelines Appendix B-O*, as applicable. EU Managers shall retain a copy of the ICS-800.

NVG Helicopter Landing and Dip Sites. All tactical landing and dip sites shall be no smaller than 150 feet long and 150 feet wide to ensure obstacle clearance.

Night Fire Suppression Response. Prior to conducting any night fire suppression response, flight crews may elect to conduct a day reconnaissance if:

- Unfamiliar with the fire location
- Unfamiliar with hazards and/or obstacles near the fire location
- FRAT overall risk element is RED (requires approval by the AMU Operations Duty Chief)
- Any time the flight crew elects conditions are unsafe

NVG HLCO shall be assigned to any incident where (3) or more aircraft are conducting low-level operations (500 feet AGL and below) in the same area.

NVG Point-to-Point. Flight crews may utilize NVGs for night point-to-point flights if the flight crew is qualified, current, within duty day limitations, and weather is above required NVG weather minimums.

Flight Plans. The PIC shall file a written or computerized domestic or ICAO flight plan prior to each flight, except for VFR flights under Aircraft Flight Following (AFF) surveillance monitored by CAL FIRE.

Formation Flights. Formation flights are prohibited. A formation flight is defined as a distance less than half-mile of another aircraft outside the FTA. Within the FTA, maintain VFR separation minimums.

Manifest Requirements. Before any flight, the PIC shall file a copy of an accurate list of personnel aboard the aircraft. This manifest shall be provided to the air base prior to departure. When not practicable to provide the air base with a written manifest, the PIC shall provide the manifest via the appropriate air base VHF-FM frequency.

Mission Delay and/or Refusal. The final decision to delay or refuse a mission may be made by either the ATGS, HLCO, Helibase Manager, ATBM, or the PIC if conditions are not safe to start or continue an operation. If the assigned PIC delays or refuses a mission, it will not depart until that PIC is satisfied that conditions have improved, or necessary



## CHAPTER 10: FLIGHT PLANNING & SUPPORT

corrective actions have been taken that the mission can proceed safely. The PIC shall notify the Helibase Manager and/or ATBM immediately for the reason of the delay and/or refusal. The ATBM is responsible to report the unsafe condition to the ECC or Air Operations Branch Director, if applicable.

If another aerial resource is assigned, it is incumbent upon the ECC or Air Operations Branch Director to inform the new flight crew of the unsafe condition, location, and the aircraft type that delayed or refused the mission.

Flight in Icing Conditions. Flight into known or forecasted icing conditions is allowed on a case-by-case basis, if the aircraft is equipped, and authorized by the aircraft operator's manual. The AMU Operations Duty Chief may authorize operations in forecasted icing conditions.

Turbulence and Thunderstorms. Flight in turbulence shall be conducted in accordance with the aircraft operator's manual. All flights shall avoid thunderstorms.

All flight shall avoid areas of known (reported or verified) moderate or greater turbulence.

Volcanic Ash Precautions. Avoid aircraft operations in the general area of volcanic activity. Since volcanic dust may extend for several hundred miles, flights should be planned well clear of the area, and if possible, the flight path should be above or on the upwind side of the volcanic dust. Aircraft which have encountered volcanic dust shall not be cleared to fly until suitable maintenance inspections have been accomplished.

### **AIRCRAFT AVAILABILITY**

Overview. The aircraft is considered "Unavailable" if the aircraft, critical support equipment, or personnel are unable to perform the requirements of the agreement.

Unavailability. Unavailability will be rounded up to the nearest quarter hour if an aircraft or flight crew is out of service.

Unavailability status will continue until the deficiency is corrected. It is the responsibility of the operator to inform their ATBM or Helibase Manager when corrective actions are completed, and the aircraft or flight crew are released for flight operations.

If flight crew members reach their maximum duty day or flight time restrictions, they are not considered "unavailable" on the Air Operations Worksheet.

### **FLIGHT AND DUTY LIMITATIONS**

Definition of a Duty Day. The definition of a duty is consecutive time spent in flight, performing ground duties, or in a standby or alert status. A duty day begins as assigned for a consecutive 24-hour period.



## CHAPTER 10: FLIGHT PLANNING & SUPPORT

A duty day is scheduled for nine (9) hours and may not be extended beyond 14 hours in any 24-hour duty period.

**Extended Standby Duty.** The CAL FIRE Extended Standby rate of 50 USD is used for any portion of an hour after nine (9) hours for each required flight crew member and assigned maintenance personnel performing maintenance or awaiting the return of the aircraft to perform maintenance.

**Flight Crew Duty Limitations.** Flight crew duty limitations are designed to ensure crew members are provided designated rest period opportunities aligning with FAA requirements. Flight crews may elect to reduce maximum flight time requirements due to fatigue or safety concerns.

Table 12. Flight Time and Flight Crew Member Rest Standards

Duty Day <sup>note 1</sup> <sup>note 2</sup>	14 hours maximum within 24-hour period
Rest Requirement <sup>note 3</sup>	10 hours (consecutive)
Total Flight Time - Single Pilot	7 hours in a Duty Day
NVG Flight Time – Single Pilot	5 hours in a Duty Day
Total Flight Time – Dual Pilot	8 hours in a Duty Day
<b>NVG Flight Time – Dual Pilot</b>	<b>6 hours in a Duty Day</b>
NVG Flight Time – Dual Pilot	6 hours in a Duty Day
Daily Staffing Limit <sup>note 4</sup>	12 consecutive days
6 Days <sup>note 5</sup>	36 - 42 hours

Note 1: Duty Day begins upon arrival at the work location and ends upon departure from the work location. If the work location is greater than a 30-minute drive time from the rest location, the duty day begins upon departure from the “suitable accommodation facility” and ends upon arrive at the “suitable accommodation facility”.

Note 2: Relief flight crew reporting for duty may be required to furnish a record of all duty time during the previous 14 days.

Note 3: Flight time is cumulative and resets only after the (10) consecutive uninterrupted hours of rest is met.

Note 4: During any 14 consecutive days, flight crew members shall be relieved from duty for not less than two days (two uninterrupted 24-hour periods). Days off need not be consecutive.

Note 5: Flight time exceeding 36 hours within 6 consecutive duty days or flight time exceeding 42 hours within 7 consecutive days requires 24 hours off.





## CHAPTER 10: FLIGHT PLANNING & SUPPORT

Flight Crew Responsibilities. The Flight Time and Flight Crew Rest Standards (Table 12) are in place to safeguard the mental and physical readiness of flight personnel. It is the moral responsibility of each qualified crew member to engage in off duty activities that will allow the crew member to return to duty fully rested.

Voluntary Removal from Flight Status. Pilots are required to voluntarily remove themselves from flight status in the event of illness, fatigue, or any other reason that could undermine safety of flight. It is imperative that the pilot reports their voluntary removal from flight status to the ATBM or Helicopter Manager and the AMU Operations Duty Chief.

Alcohol Consumption. Flight crews are restricted from aerial operations for at least eight hours after last alcohol use and must have no residual effects. Residual effects include light-headedness, headache, fatigue, nausea, visual alteration/distortion, and lack of alertness.

Class 2 Medical Clearance. All PICs and PACs shall maintain a current FAA Class 2 Medical clearance at a minimum. This clearance shall be renewed annually by an FAA Aviation Medical Examiner.

Medication. Flight crews shall not take any prescription medication/supplement unless cleared by a qualified FAA Aviation Medical Examiner. Flight crews using over-the-counter medication/supplements shall follow the [FAA Over-The-Counter Medication for Pilots Checklist](#).

Hyperbaric Exposure. Under normal circumstances, flight crews are restricted from aerial operations for 24 hours following use of Self-Contained Underwater Breathing Apparatus (SCUBA) diving, compressed air dives, or high-pressure chamber use.

Emergency Breathing Device training utilized for emergency egress does not limit personnel from flight. The duration and depth of training is not normally sufficient to produce symptoms of decompression sickness or air embolism.

### **ROLES AND RESPONSIBILITIES WITHIN THE AIRCRAFT**

Pilot-In-Command (PIC) Responsibilities. The PIC is responsible for the professional, safe, orderly, efficient, and effective performance of the aircraft and crew members during the entire mission. This responsibility exists from the time the PIC first enters the aircraft with intent for flight, until leaving it upon completion of the mission.

Pilot-In-Command Authority. In accordance with 14 CFR Part 91.3, the PIC is ultimately responsible for all operations within the aircraft from preflight to postflight. PICs shall employ crew resource management while operating an aircraft and shall weigh flight crew input into at-scene decision making. The PIC may delay or refuse any mission or flight profile, if conducted, would violate CAL FIRE and/or FAA policy; or if conditions are deemed unsafe by the PIC (i.e., environmental conditions, hazards, aircraft limitations,





## CHAPTER 10: FLIGHT PLANNING & SUPPORT

crew limitations, etc.). When operating an aircraft with two pilots, a PIC shall be identified prior to commencing the flight.

Second-in-Command (SIC). The SIC is responsible for monitoring radio communications, flight path of the aircraft, automated systems if engaged, aircraft system, airspace surveillance, and checklist management. It is the co-pilot's responsibility to complete non-flight path associated tasks.

Sensor Operators. Sensor operators will operate mission essential equipment. Sensor operators will have a NIFC AGOL log-in (in order to access the interagency "New Fire Detection" survey to report new fires during recon missions). Sensor operators will conform to the standardized naming convention when producing product files. This format will be provided by the agency aircraft manager.

### **MISSION ESSENTIAL AND ANCILLARY EQUIPMENT**

Minimum Equipment List (MEL). Each aircraft shall have a MEL available to the flight crew. The MEL will determine which operations are impacted dependent upon which aircraft systems are degraded.

Traffic Avoidance Systems (TAS) Requirements and Use. Traffic advisory systems must be FAA Technical Standard Orders (TSO) approved, use active interrogation, graphically display traffic relative to the aircraft's horizontal position, and provide alert audio to all required audio positions. Non-flight crew members must have the ability to disable alert audio. The display must be within view of the PIC and SIC/observer. The system must provide coverage in all directions above and below the aircraft with a maximum range of at least 10 nautical miles. The display must allow range selection of 2 miles or less unless the 2-mile display area has a diameter of 2.75 inches or larger. Traffic displays must permit aircraft identifications to be turned off.

While TAS may not be considered mission essential equipment within an MEL, the use of a properly functioning traffic collision avoidance instrument is mandatory for all Exclusive Use aircraft.

Use of a properly functioning traffic collision avoidance instrument will be mandatory for CWN operators by June 2025.

### **Automatic Dependent Surveillance – Broadcast In (ADS-In) Requirements and Use**

ADS-B In systems must receive both UAT and 1090ES and display TIS-B traffic, with aircraft identifications, on a government iPad via Foreflight using one of the methods below.

- A permanently installed ADS-B In receiver with the capability to wirelessly integrate with Foreflight. The wireless signal must be sufficient to provide uninterrupted connection from the SIC and aircraft observer positions.



## CHAPTER 10: FLIGHT PLANNING & SUPPORT

- Provisions to install a Stratus 3 receiver must include installation of an affixed dash mount GPS and ADS-B antennas external to the aircraft, with compatible connectors at the dash mount, and dedicated power to a compatible connector at the dash mount.

Aircraft shall operate with a functioning radar beacon transponder with mode 3/A or Mode C and ADS-B capability unless mission urgency dictates.

When responding to an incident, all aircraft shall squawk Mode 3/A code 1255.

Oxygen Requirements. When operating helicopters, operators shall comply with 14 CFR 91.211 requiring oxygen use by qualified crew members operating non-pressurized aircraft when between 12,500 feet MSL and 14,000 feet MSL for greater than 30 minutes and at all times when above 14,000 feet MSL.

Non-qualified crew members must have access to oxygen when above 15,000 feet MSL.

Use of Recording Devices. Internally and externally mounted cameras are not permitted on contracted aircraft.

All flight crew members and other occupants shall be made aware that all media recorded on any device (including personal devices) aboard all aircraft can become state property and must be relinquished when ordered in accordance with Public Records Act.

Voice and video recordings may be considered a form of Personally Identifiable Information (PII) and shall be protected in accordance with the Privacy Act of 1974.

Medical Equipment. The use of manual pacer-defibrillators and Automatic External Defibrillators (AED) is approved aboard all aircraft. Defibrillators are required to use internal batteries as the sole power supply. No connection to aircraft power is allowed.

Aviation Life Support Equipment (ALSE). Flight crews shall don the following minimum PPE in the appropriate manner:

- Approved long-sleeved flight clothing made of fire-resistant polyamide or aramide material
- Polyamide or aramide gloves
- Shirts, trousers, and boots shall overlap by two inches
- DOI-approved protective helmet with chin strap
- Boots or closed shoes covering the ankle. Deep-cleated soles are not authorized
- Personal flotation device when performing water bucket operations (helicopter) and when operating beyond power-off



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glide distance to land.

### **WEAPONS AND CARGO**

Firearms Aboard Contracted Aircraft. Only designated law enforcement officers are authorized to carry and/or transport firearms aboard contracted aircraft while serving a government function. Discharging firearms from within the aircraft is not authorized.

Single action firearms (the hammer must be manually cocked other than by pulling the trigger) shall NOT have a round chambered (under the firing pin). Firearms designed with an internal or operator activated device that physically locks the firing pin in the retracted position unless the trigger is pulled, and double action handguns (the hammer/weapon is cocked and released by pulling the trigger) shall be allowed to have a round in the chamber with the handgun safely de-cocked and holstered. All firearms with mechanical safety devices shall have those safeties engaged.

All firearms shall be carried with the muzzle pointing downward towards the floor.

Transportation of Personnel Under Law Enforcement Custody. Any personnel being transported under the custody of law enforcement shall be restrained for the safety of flight. In case of an emergency egress, the law enforcement officer may remove restraints to facilitate the egress of personnel in custody.

Cargo in Crew or Passenger Compartment. When cargo is to be carried in the passenger/or crew compartment, the PIC shall ensure all cargo is properly secured in accordance with 14 CFR Part 91.525.

### **HELICOPTER LOADING OF CARGO AND PERSONNEL**

Safety Brief. Prior to any loading or unloading of personnel or equipment while rotors are turning, a safety brief with ground personnel is mandatory.

Loading Non-Jettisonable Cargo or Non-Helitack Personnel while Rotors Turning. The loading or unloading of non-essential personnel or cargo is authorized while rotors are turning only when escorted by CAL FIRE ground personnel. Personnel shall stay outside the rotor arc until permission is given by the PIC to enter under the rotor arc. Personnel may only approach the aircraft from the three or nine o'clock position while escorted.

These operations will only be conducted when supervised by trained personnel and approved by the PIC.

Loading Helitack Personnel while Rotors Turning. The loading or unloading of Helitack personnel is authorized while rotors are turning. Personnel shall stay outside the rotor arc until permission is given by the PIC to enter under the rotor arc. It is recommended that personnel approach the aircraft from the three or nine o'clock position.



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### FIXED WING LOADING OF CARGO AND PERSONNEL

Safety Brief. Prior to any loading or unloading of personnel or equipment while engines are running, a safety brief with ground personnel is mandatory.

Loading Non-Jettisonable Cargo or Personnel while Engines Running. All aircraft propellers shall be stopped prior to loading or unloading of passengers or cargo.

The only authorized exception is when access to the aircraft is from the side opposite the running engine(s) and the approach and departure from the aircraft is on the non-operational side. These operations will only be conducted when supervised by trained personnel and approved by the PIC.

Aircraft propellers or turbofan engines may continue to operate only when loading non-jettisonable cargo and/or personnel through the aft cargo ramp/door. Safety personnel shall be posted aft of the trailing edge of each wing.

Fixed-Wing Qualified Non-Crew Members. Qualified non-crew members are not permitted on firefighting aircraft. The following crew members are approved to occupy an observer's seat in a fixed-wing aircraft:

#### Air Tactical FIRE Mission (Standard Category Only)

- Air Tactical Group Supervisor (ATGS) and ATGS trainees
- CAL FIRE Aviation Officers
- Others as approved by the AMU Operations Duty Chief

#### Air Tactical NON-FIRE mission (All above including the following)

- Company Mechanics
- Others as approved by the AMU Operations Duty Chief

#### Air Tanker FIRE mission

- Air Tanker Pilot Trainees
- Others as approved by the AMU Operations Duty Chief

#### Air Tanker NON-FIRE mission (All the above Air Tanker Fire Mission including the following)

- CAL FIRE personnel designated as ATGS or Airtanker Coordinator
- Company Mechanics
- Others as approved by the AMU Operations Duty Chief

#### Incident Assessment and Awareness (IAA) mission



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- CAL FIRE personnel designated as ATGS, ATGS trainee, Sensor Operator, and/or Aerial Observer
- Others as approved by the AMU Operations Duty Chief

Helicopter Qualified Non-Crew Members. Qualified Non-crew members are not permitted on firefighting aircraft. The following crew members are approved to occupy an observer's seat in a helicopter:

### Helicopter FIRE mission (Standard Category).

- CAL FIRE Aviation Officers
- CAL FIRE Helitack Crewmembers
- HLCO, MHEM, or any other personnel discharging a mission-specific duty
- Others as approved by the AMU Operations Duty Officer

### Helicopter FIRE mission (Restricted Category).

- Company Mechanics – first fuel cycle only
- Others as approved by the AMU Operations Duty Officer

### Helicopter NON-FIRE Mission (All above Helicopter Fire Mission plus the following)

- Company Mechanics
- Others as approved by the AMU Operations Duty Officer



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### Victim Transport to Higher Level of Care.

Transferring a victim from a higher level of care on the ground to a lower level of care within the helicopter is authorized if any one of the following are encountered:

- There is a PROBABILITY of saving a life.
- Time taken to recover personnel with a higher level of care qualification would jeopardize the PROBABILITY of saving a life.
- The operation to recover personnel with a higher level of care qualification continues to expose flight crew members to a “red” risk category within the FRAT.

For the purpose of this section, the definition of PROBABILITY is when there is a 50 percent or greater chance that the victim would expire if any further delays (i.e., additional hoists) are conducted prior to transporting the victim to a higher level of care (i.e., ambulance, trauma center, etc.).

### TRANSPORTATION OF HAZARDOUS MATERIALS

Scope. For the purpose of this section, all transportation of hazardous materials shall comply with the NWCG Standards for Aviation Transportation of Hazardous Materials – PMS 513. This section outlines PMS 513 requirements for transportation of hazardous materials on CAL FIRE aircraft.

FAA Definition of Hazardous Materials. Hazardous material, as defined in 49 CFR, “means a substance or material that the Secretary of Transportation has determined is capable of posing an unreasonable risk to health, safety, and property when transported in commerce. The term includes hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (see 49 CFR 172.101), and materials that meet the defining criteria for hazard classes and divisions in Part 173 of Subchapter C of this chapter.”

Hazardous Material Identification. Information on the contents of a product suspected of containing hazardous materials can be obtained by contacting the manufacturer of the product and requesting a Safety Data Sheet (SDS).

Limiting Exposure. Flight crew members must minimize the hazards associated with transporting hazardous materials by:

- Carrying hazardous materials aboard aircraft only when other means of transportation are impracticable.
- Limiting personnel on aircraft carrying hazardous materials to those crewmembers essential to mission accomplishment.



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- Avoiding hazardous materials flights overpopulated areas.
- Restraining packages placed aboard aircraft including cargo compartments and external cargo racks from movement while in transit.
- Prohibiting smoking or the use of any item that could cause an open flame or spark when explosives, flammable solids, flammable liquids, or gases are being loaded and unloaded, and during flight.

Notification of PIC (NOPIC) of Hazardous Materials. A notification to the PIC shall occur when transporting hazardous materials. This notification is captured on a Hazardous Materials Manifest Form (APPENDIX A). Information on the Hazardous Materials Manifest Form includes:

Common Name	Proper Shipping Name (PSN)
Hazard Class	Emergency Response Guidebook Number
Quantity	Location of HAZMAT on aircraft
PIC Signature	

The NOPIC will be provided to the PIC before the first flight of the day. Thereafter, verbal notification of changes in hazardous materials is acceptable.

The PIC is directly responsible and is the final authority for the safe operation of the aircraft to include acceptance of hazardous materials. Before each flight:

- Inform all personnel of the location of HAZMAT aboard the aircraft
- Prohibit any activity that could cause an open flame or sparks

Exceptions. Packaging, markings, labeling, and shipping paper requirements of 49 CFR, Subchapter C, do not apply to hazardous materials transported in accordance with the standards provided herein when aboard aircraft for government purposes when under exclusive direction and operational control of CAL FIRE, DOI, or USFS. Hazardous materials not specified in this document must be transported in accordance with the requirements of 49 CFR Parts 171-180.

HAZMAT Containers. Containers must be inspected for damage or leaks during loading and unloading. Containers must:

- Be compatible with the product to be contained
- Have all closures secured (49 CFR Part 173.24(f) (I))
- Not leak
- Not allow the contents to come in contact with the aircraft or personnel



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Special Provisions. A copy, electronic or print, of the following materials must be carried aboard each aircraft transporting hazardous materials.

- NWCG Standards for Aviation Transport of Hazardous Materials, PMS 513
- [Emergency Response Guidebook \(ERG\)](#)
- Department of Transportation, Special Permit (DOT-SP) 9198

For helicopter field operations away from fixed facilities, these requirements are deemed to have been met when the helicopter is loaded or reloaded under the direct supervision of a CAL FIRE employee trained in handling HAZMAT.

Hazardous Materials Incident Notification. Hazardous material incidents must be reported to the AMU Operations Duty Chief. If a hazardous material spill occurs within the aircraft, the aircraft shall be grounded, and the AMU Maintenance Duty Chief shall be notified. Significant hazardous material incidents shall be reported in accordance with the DOT-SP 9198, 49 CFR Part 171.15 and Part 171.16, so that an investigation by the appropriate authorities can establish the cause and corrective actions.

### **TRANSPORTATION OF COMBUSTIBLE AND FLAMMABLE LIQUIDS**

Description. Flammable and combustible liquids include all flammable and combustible liquids except those under compression (propane, butane, etc.). These materials may include but are not limited to gasoline, diesel, kerosene, alcohol, white gas (stove fuel), paint, and thinners/solvents.

Control Measures. To transport flammable and combustible liquids in non-bulk containers of 119-gallon capacity or less, the following conditions must be met:

1. Containers must be specifically designed to carry flammable and combustible liquids and be of sufficient strength to prevent leakage during transportation and handling.
2. All closures on the containers should be tight and the outside of the container should be free of any residue.
3. Containers must be filled to a level that allows for expansion due to temperature or altitude and never filled beyond rated capacity.
4. Containers must be secured in the upright position by tie-down straps or shipped in an outside container that will keep the inner container upright.





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5. Containers that may release vapors must not be transported in unvented aircraft compartments. Baggage compartments in unpressurized aircraft are considered vented compartments (an unpressurized cabin may also be used when it is ventilated to prevent accumulation of harmful vapors).
6. Flammable and combustible liquids must not be transported in containers unless they are specifically designed for that purpose.
7. Additional requirements apply to the following containers:
  - a. Safety cans must be transported in vented compartments, secured in the upright position, and filled to a level that allows for expansion (no more than 90% capacity).
  - b. Military Jeep Cans (3A1 Jerry Cans) must be secured in the upright position and have two inches of air space below the container opening.
  - c. Drip torches must be transported with the igniter nozzle assembly in the tank, air breather valve closed, tank lock ring sealed, and fuel spout plug closed and must be secured in the upright position. Leave a minimum of two inches of air space below the container opening when filling.
  - d. Chainsaw Fuel/Oil Plastic Container (Dolmars). Chainsaw fuel/oil plastic containers must be transported with the pourer spout enclosed within the container with the caps sealed. Ensure seal gaskets or O-rings are intact. The fuel air breather cap must be closed during transportation. Secure in an upright position. Leave a minimum of two inches of air space below the fuel compartment opening when filling.
  - e. Sigg bottles must not be transported with a pouring spout in lieu of an unvented cap and must have air space below the container opening (no more than 90% capacity).

### **TRANSPORTATION OF IGNITION DEVICES**

**Description.** Ignition devices include but are not limited to fusees, flares, and other flammable solids designed for signaling, fire ignition, or fumigating.

**Control Measures.** To transport fusees, strike anywhere matches, flares, and aerial ignition plastic spheres in aircraft, the following conditions must be met:

1. All fusees must be packaged in a container, box, or pack.
2. Broken fusees and those with protective igniter caps removed must not be transported in aircraft.



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3. Fusees and flares should be carried in original shipping containers whenever possible.
4. Pistol flare ammunition may be carried on aircraft if contained in original package, box, pack, or a manufactured container designed for transporting ammunition.
5. Aerial ignition plastic spheres containing oxidizers must be segregated from antifreeze (glycol) containers during transportation.
6. Aerial ignition plastic spheres containing oxidizers may be loaded into bags that will be utilized to facilitate the efficient filling of the dispenser in flight during dispensing operations.
7. Personnel engaged in fire management activities may transport small quantities of fusees (5 or fewer) inside field gear packs without the hazard communications marking.
8. Strike anywhere matches, other than those carried in personal survival kits must be transported in a container that inhibits movement of matches, thus preventing ignition.

### WARNING

**Ignition devices must not be transported in a position that allows them to interact with batteries or battery fluids. Ignition devices must not be transported with explosives.**

### EXPLOSIVES

Description. Explosives include but are not limited to fire line explosives (FLE), nitroglycerin-based, and cast primer explosives. All explosives must be handled in accordance with agency guidance. When transporting explosives on aircraft, consider water gels and two-component (binary) explosives.

Control Measures. To transport explosives by aircraft, the following conditions must be met:

1. All explosives transported in accordance with the standards contained herein must be classed and approved in accordance with 49 CFR and be labeled on the outside of the package with the appropriate UN/DOT hazardous materials warning label.
2. All explosives must be prepared, packaged, and transported under the control or direction of a licensed and certified blaster or a person who is approved by DOI, USFS, or cooperating agencies in accordance with established training.



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3. Detonating materials and explosives must be carried on different flights or segregated using separate compartments or packaging that prevents the interaction of the two materials. Avalanche control flights in accordance with established procedures are an exception.
4. Only crewmembers necessary for the completion of the mission must be allowed on a flight transporting explosive materials.

### WARNING

**Explosives must not be transported or stored next to or in contact with flammable gas, non-flammable gas, flammable/combustible liquids, flammable solids, oxidizers, or corrosives.**

### COMPRESSED GASES AND LIQUIDS

Description. Compressed gases and liquids include liquids or fuels under compression such as propane, butane, acetylene, etc., and aerosol containers. High-pressure cylinders may contain products such as air, oxygen, carbon dioxide, helium, nitrogen, and argon.

Control Measures. To transport compressed gases and liquids in aircraft, the following conditions must be met:

1. Must be transported in a DOT specified container.
2. Containers with gases and liquids under pressure, including aerosols carried for other than personal use, must be secured to prevent movement and protect the discharge valve.
3. When carrying compressed gases and liquids internally, adequate ventilation must be provided to prevent the accumulation of harmful vapors.
4. Compressed gases or liquids must not be dispensed or used inside the aircraft during flight, except oxygen or air and compressed gases for infrared cameras.
5. Except when dispensing compressed gases and liquids during flight, cylinders must be secured, and cylinder valves protected.
6. Oxygen containers must not be stowed or used in a manner that allows oxygen to come into contact with flammable liquids or oils and greases.



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Personal Survival - Compressed Gases and Liquids. Personal survival equipment is defined as materials essential to survival such as CO<sup>2</sup> cartridges for flotation devices, stove fuel, fire starters, strike anywhere matches, and supplemental breathing air. Many of these survival devices shall be carried in a pocket, survival vest, or pack and adequately protected against container rupture.

### **BIOMEDICAL WASTE**

Description. Biomedical waste is any type of waste containing infectious or potentially infectious materials.

Control Measures. All materials must be packaged, secured, and identified to mitigate against exposure to personnel as soon as practical. If spillage of biomedical waste within the aircraft occurs, the aircraft shall be grounded until the biomedical waste is cleaned with an approved cleaning solutions.

#### **CAUTION**

**The use of bleach, alcohol, and other typical biohazard cleaning products may damage certain aircraft surfaces. Only approved aircraft biohazard cleaners may be used.**

### **PREDATOR REPELLENTS AND PERSONAL PROTECTION IRRITANTS**

Description. Repellents and irritants include red pepper extract aerosol products, such as bear repellent spray and personal defense sprays.

Control Measures. All repellents and irritants shall be placed in a sealed plastic bag when transported to reduce personnel exposure in the event of an inadvertent discharge. All installed bottle safety devices shall be operable and engaged.

#### **WARNING**

**Avoid repellent and irritant exposure to ignition sources and temperatures above 120° F.**



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## FLIGHT DISCIPLINE

Purpose. Flight discipline is the resolve to safely operate an aerial resource within operational, regulatory, and organizational guidelines while using a systematic approach to validate a flight operation and to mitigate hazards in an effort to reduce risk exposure. Flight discipline recognizes the ever-present potential for human error due to (1) the limitations of human performance; (2) the challenging and complex aviation environment and; (3) the multifaceted interactions among flight crew members and aircraft technology. Flight discipline creates and maintains flight safety through CRM core competencies.

Operational Risk Management (ORM). ORM is a formalized way of identifying hazards and is the logical process of weighing the potential costs of risks against the possible benefits of allowing those risks to stand uncontrolled. The use of a Flight Risk Assessment Tool (FRAT) is a structured tool that enables flight crews to identify common hazards and risk mitigation strategies.

Although ORM is commonly practiced throughout the duration of a flight, a common ORM structure provides flight crews tangible analysis and communication method to better make risk decisions up and down the chain of command.

Flight Risk Assessment Tool (FRAT). The Flight Risk Assessment Tool (APPENDIX D & E) shall be employed at the beginning of each duty day and must be updated if changes negatively impact the condition of the aircraft, qualified flight crew, mission, weather, and time of day.

Any mission that reaches a “red” risk category **shall** require approval prior to proceeding from the **AMU Operations Duty Chief (24-Hour Duty Line: 877-406-9997 Ext 3)**.

Any mission assigned a “yellow” risk category may proceed without approval, if a flight crew employs risk mitigation strategies to reduce the risk. The AMU Operations Duty Chief (24-hour duty line) shall be notified at the earliest convenience regarding the “yellow” risk element(s) and which risk mitigation strategies were employed. This notification may be made after the mission is completed.

Checklist Use. The use of published checklists is mandatory. Only aircraft operator’s manual approved checklists are authorized for all flight related tasks. All aircraft operations shall be conducted within the aircraft limits envelope prescribed within the aircraft operator’s manual.



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Passenger/Crew Brief. Before each flight, the PIC shall ensure that all occupants have been briefed on, but not limited to:

Table 13. Passenger/Crew Brief

No smoking	Use of seat belts and restraints
Use of doors and cargo compartments	Emergency exits
Location of first aid and survival equipment	External hazards – propellers, rotors, and blast areas
Ingress and egress procedures	Overwater considerations

Standard Phraseology. The use of standardized phraseology is required and promotes effective communication and increases operational efficiency.

Critical Phases of Flight. Critical phases of flight are aircraft operations where the consequence of a deviation increases and safety margins decrease.

Critical phases of flight include but are not limited to:

- All ground operations involving aircraft movement
- Takeoff, approach, and landing
- Anytime a checklist is in progress
- Emergencies
- Low-level operations (i.e., hoverfill, water dropping, hoisting)
- High radio traffic
- TCAS alerts
- Within the Fire Traffic Area
- As directed by the PIC

All flight crew members will employ the sterile cockpit rule to minimize distractions during critical phases of flight. No person shall engage in any conversation or activity that could distract or interfere with a flight crew member conducting their assigned duties during critical phases of flight. It is essential that all crew occupants monitor radio traffic to ensure the flight crew members are not engaged with external radio communications prior to communicating on ICS.

Air bases shall not attempt to contact aircraft during departure, approach, and landing phases of flight unless making the PIC aware of a degradation of the aircraft or an airport emergency that could affect a takeoff or landing.

Two-Challenge Rule – Dual Pilot. During the normal course of operations, if any flight crew member challenges the actions of the pilot at the controls and does not receive an



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appropriate acknowledgment after a second challenge, the pilot not at the controls shall initiate a change in control of the aircraft.

No-Challenge Rule. If the pilot not at the controls feels the aircraft is in extremis and immediate action is required for the safety of flight, the pilot at the controls shall initiate the appropriate control input in lieu of the Two-Challenge Rule while verbalizing the control inputs and hazardous condition (e.g., left turn, traffic, my controls). Once the hazard is cleared, positive aircraft control shall be definitive (e.g., clear of the hazard, your controls).

Automation. The purpose of aircraft automation is to assist the pilot(s) to balance workload and optimize situational awareness. The level of automation used at any specific time should be the most appropriate to (1) safely control the flight path of the aircraft; (2) assist flight crew workload; (3) maintain shared situational awareness among the flight crew members; and (4) enhance mission effectiveness.

Flight crews shall adhere to the following automation principles:

- PIC has the final authority over the automation for controlling the aircraft flight path and monitoring aircraft systems.
- Aircraft automation shall not override pilot actions.
- Pilots shall communicate to the flight crew the current aircraft automation level
- Flight crews shall be proficient in operating the aircraft at, and transitioning between, all levels of automation.
- If aircraft automation provides unexpected commands to the flight controls, flight crews shall revert to lower levels of automation, or manual flying, as necessary, before resolving any problems with the automation. Since the automation interface is unique to the aircraft, specific levels of automation shall be defined within each aircraft respective aircraft operator's manual.

Automation Discipline. Aircraft with automated systems require high levels of flight crew coordination to prioritize tasks and effectively manage workload. Successful crew coordination is accomplished through standardized procedures and flight discipline. To maintain appropriate levels of automation situational awareness, flight crews shall adhere to the following:

- Ensure the duties of all flight crew member using automated systems are clearly defined, briefed, and understood.
- Maintain constant awareness of cockpit automation modes in all phases of flight.
- Crosscheck other flight guidance system inputs for accuracy.



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- Use standard phraseology for advising current automation status, any changes to the automation status or aircraft systems status.
- Perform normal systems monitoring duties in conjunction with utilizing advisories from automated alert systems.
- Ensure that automation systems data entry does not detract from the primary responsibility of controlling and monitoring the aircraft flight path.

Operating the Flight Controls. Flight control transfer between pilots shall be announced verbally and conducted in a clear and direct manner. The pilot at the controls is responsible for controlling the flight path until the control transfer to the other pilot is completed through a three-way positive change of controls.

During critical phases of flight, the pilot not at the controls shall remain in a defensive posture to immediately take control of the aircraft if necessary. The pilot not at the controls shall announce any control inputs that assist or limit the flight control inputs of the pilot flying.

Knowledge of Aircraft Operator's Manuals and Directives. All pilots shall be familiar with the publications that pertain to all aircraft for which they hold current qualifications. These publications include, but are not limited to aircraft operator's manuals, airworthiness bulletins and directives, and all applicable wildland fire regulations. A current operator's manual (portable electronic device or paper) and all pertinent checklists shall be carried on the aircraft.

### **GENERAL FLIGHT OPERATIONS**

Use of Personal Restraints. At all times, all occupants shall be full restrained with the use of seat belts or an approved harness/restraint system.





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Minimum Altitudes. Table 14 outlines the required minimum altitudes.

Table 14. Minimum Altitudes.

Aircraft Type	Enroute (Day)	At Incident
Air Tactical	2,000 feet AGL	500 feet AGL
Airtanker	1,000 feet AGL	150 feet above top of vegetation
Helicopter	1,000 feet AGL	As required
VLAT	As appropriate; no lower than 1,000 feet AGL	250 feet above top of vegetation

Aircraft Type	Enroute (Night)	At Incident
All	2,000 feet AGL	Not Applicable

Aircraft Type	Enroute (NVG)	At Incident
All	1,000 feet AGL	As required

Enroute Altitude. To the maximum extent possible, all aircraft shall maintain an enroute altitude as depicted in Table 14 or greater for noise abatement. Local course rules, low ceilings, reduced visibility, ATC instructions, ATC published routes, and certain emergency procedures may allow for other enroute altitudes.

Weather Limitations. All flights shall comply with controlled airspace basic VFR cloud clearances.

Minimum Visibility and Ceiling Requirements. All aircraft shall adhere to the following minimum weather requirements:

Table 15. Aircraft Weather Minimums

Mission	Visibility	Minimum Ceilings
Fixed Wing Aircraft	3 SM	1000 feet
Helicopter outside the FTA	3 SM	1000 feet
Helicopter within the FTA – Day	½ SM	Clear of Clouds
Helicopter within the FTA – NVG	1 SM	Clear of Clouds

Inadvertent Flight into IMC. Inadvertent IMC encounters can be the most demanding condition a flight crew ever experiences. These circumstances may lead to spatial disorientation, which could result in controlled flight into terrain (CFIT). An unplanned transition from visual meteorological conditions (VMC) to instrument meteorological



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conditions (IMC) is an emergency and demands optimal crew resource management and the PIC to fully commit to an instrument scan. If encountering conditions that are conducive to entering IMC, the PIC shall be aware of their local hazards and appropriate safe altitudes to avoid obstacles and rising terrain.

If encountering conditions that are conducive to entering IMC, the pilot shall be aware of their local hazards, and appropriate safe altitudes to avoid obstacles and rising terrain. Appropriate altitudes may be an Off Route Obstacle Clearance Altitude (OROCA). Once the aircraft is stabilized, pilots should consider using appropriate flight director modes (if available) to help maintain aircraft control and reduce workload.

**IIMC within the FTA.** If an aircraft enters IMC conditions within the FTA, operators are required to announce the condition, direction of flight, and altitude on Air Tactics or VHF-AM 122.925 as soon as possible to allow aerial supervisors to clear participating aircraft.

Instrument Flight Rules (IFR) and Instrument Meteorological Conditions (IMC). Only qualified pilots trained, rated, carded, and current for IFR operations may operate under IFR or operate in IMC. Additionally, the aircraft must be minimally equipped and certified for IFR.

- Instrument flight shall be conducted in accordance with 14 CFR Part 91.
- The PIC will ensure all equipment required for IFR flight is operable in accordance with 14 CFR Part 91.205.
- Pilots authorized for IFR operations may utilize IFR for departures, enroute, and terminal arrivals however, aircraft must conduct tactical operations under VFR (except for mapping and reconnaissance).
- Prior to IFR flight, a VOR ground check requirements shall be met and documented in accordance with 14 CFR Part 91.171 if utilized.

### **IFR FLIGHT PLANNING**

Identification of Ceilings. Broken (BKN) and Overcast (OVC) shall be utilized for IFR flight planning when determining ceilings.

+/- 1 Hour Arrival Weather. TEMPO shall be utilized when determining +/- 1 hour weather for departures and arrivals.

Take-off Minimums. The PIC may depart an airport if the reported weather at the time of departure is less than the weather requirements prescribed for the lowest compatible standard instrument approach available at the departure airport. If the reported weather



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at the time of departure is less than the lowest compatible standard instrument approach, a departure alternate shall be planned.

A departure alternate airport shall be planned within a 60-minute flight time range based on one engine inoperative airspeed.

Departure Alternate. Reported weather at a departure alternate shall be 400 feet and  $\frac{1}{2}$  SM above the lowest compatible standard instrument approach weather minimum +/- 1 hour of planned arrival.

Destination Minimums. A destination airport shall not be utilized if reported weather is below the lowest compatible approach minimums +/- 1 hour of planned arrival.

Destination Alternate. Anytime the destination airport reported weather is less than 400 feet and  $\frac{1}{2}$  SM above the lowest compatible approach weather minimum +/- 1 hour of arrival, a destination alternate is required.

If a destination alternate is required, the destination alternate shall be 600 feet and 2 SM for a precision approach and 800 feet and 2 SM for a non-precision approach.

Landing Minimums. All IMC landing criteria shall comply with 14 CFR Part 91.175 (a) (b) (c) (d) (e).

Database Management. All aeronautical databases shall be non-corruptible and current.

### **HAZARD AWARENESS & ENVIRONMENTAL LIMITATIONS**

Aerial Hazard Maps. ATBM and Helibase Managers are responsible for developing Aerial Hazard Maps for the operating area.

The hazard map shall include the following:

Table 16. Hazard Map Requirements

Power Lines	Towers
Wires	Special Use Areas (SUAs)
Noise Abatement Areas	Avoidance Areas
Hang Gliding Areas	Parachute Areas
Retardant Exclusion Zones	Sensitive Areas
Turbulence Areas	Mining Operations
Map Legend	Date of last revision and review
Any other hazards	



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**LASER Illumination.** If a flight crew member observes a LASER beam directed at the aircraft from an external LASER source, the crew member shall announce the condition and advise all aircraft personnel to look in the opposite direction of the LASER. The PIC shall act to ensure the safety of the aircraft and minimize further LASER exposure. When safe to do so the PIC shall advise Aerial Supervision or the nearest ATC facility of the incident. If any possibility exists that a crew member has received a direct eye strike from the LASER they shall be released from their shift to seek medical attention.

The use of LASER sources from HLCO and helicopters is a common practice for night fire suppression.

**Wind Limitations.** Special precautions should be exercised when operating in the tactical environment. It is the responsibility of operators and aerial supervisors to continuously monitor environmental conditions associated with high winds and turbulent conditions. Furthermore, it is the operator's responsibility to identify turbulent conditions and cease operations if safety of flight is at risk or fire suppression measures are ineffective.

The following wind limitations apply:

Table 17. Wind Limitations

Operation	Wind Limitations
Outside the FTA	Refer to Aircraft Operator's Manual
Tactical Operations <1000 feet AGL	≥30 knots sustained; or ≥15-knot gust spread

### **AIRCRAFT MONITORING AND COMMUNICATIONS**

**Automated Flight Following (AFF).** If AFF is inoperable, ECCs or air bases will notify the airborne aircraft of signal loss. Aircraft may operate with inoperative AFF however, shall comply with a 15-minute verbal position report on ECC assigned frequency. FAA flight following does not substitute for AFF or 15-minute verbal position reports.

**VFR Flight Following.** When transiting long distances during non-tactical missions, aircraft should establish VFR Flight Following with ATC, especially in areas of high aircraft concentrations.

If TAS or ADS-B equipment is inoperable, aircraft shall attempt to establish FAA Flight Following for non-tactical flights. ATC may choose not to establish VFR Flight Following due to ATC workload.

**Radio Monitoring.** All aircraft are expected to remain available for dispatch or divert at all times. Aircraft shall monitor VHF-AM 122.925 and VHF-FM Air Guard 168.625, tone 1 (110.9). It is also appropriate to monitor or utilize other tactical or command frequencies or local ECC frequencies if workload permits.



## CHAPTER 11: CONDUCT OF FLIGHT OPERATIONS

Radio Discipline and Standard Phraseology. When communicating with radios, it is imperative flight crew members communicate in a concise and standardized manner using clear language. Understanding aerial supervision radio workloads, knowing when to communicate, and prioritizing critical information is key to contributing to a safe and effective FTA. This includes minimizing non-critical communication on assigned frequencies.

If ordered to divert on Air Guard, flight crew members shall acknowledge the order, then switch to another working frequency as directed to receive incident details.

Flight crew members shall use standard phraseology to the maximum extent possible.

Prohibited Operations. The following are prohibited maneuvers:

Table 18. Prohibited Operations.

Helicopters	Fixed Wing
Aerobatic flight <small>Note 1</small>	Aerobatic flight <small>Note 1</small>
Flight over structures, persons, or property with a jettisonable load	Manipulation of the flight controls by personnel others than qualified crew members
One skid/wheel or toe-in landings	Flight within ½ NM horizontally of other aircraft <small>Note 2</small>
Leaving the helicopter with engines running <small>Note 3</small>	Any prohibited maneuver outlined in the operator's manual
Any prohibited maneuver outlined in the operator's manual	
Aerial Hose Laying	

Note 1: An intentional maneuver involving an abrupt change in an aircraft's attitude, an abnormal attitude, or abnormal acceleration, not necessary for normal flight.

Note 2: Only when operating outside the FTA.

Note 3: If allowed by operator's manual, pilot may reduce engine(s) power to idle, lock the controls, and check the external load.



## CHAPTER 12: FLIGHT PROHIBITIONS AND EMERGENCY PROCEDURES

Overview. Contractors operating aircraft for the State of California are required to conduct operations in concert with CAL FIRE's Flight Safety Standards (FSS). The FSS details the Safety Management System (SMS) that is employed by CAL FIRE. As a part of the safety assurance process of the CAL FIRE SMS program, all aviation accidents and incidents that meet the reporting criteria of [CFR 49 Part 830](#) shall be reported to the applicable ATBM or Helibase Manager. The ATBM or Helibase Manager shall then notify the appropriate CAL FIRE personnel.

CAL FIRE Aviation Safety Officer Authority. The Aviation Safety Officer (ASO) shall conduct investigations and assess the events surrounding reported accidents, incidents, and potential hazards. Additionally, the ASO or AMU Operations Duty Chief shall notify the National Transportation Safety Board (NTSB) of any aircraft accidents, incidents, or overdue aircraft as defined in [CFR 49 Part 830](#). For ease of reference a list of reportable items is listed below.

NTSB Accident Definitions 49 CFR 830. An aircraft accident means an occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage. For purposes of this part, the definition of "aircraft accident" includes "unmanned aircraft accident," as defined herein.

Civil aircraft means any aircraft other than a public aircraft.

Fatal injury means any injury which results in death within 30 days of the accident.

Incident means an occurrence other than an accident, associated with the operation of an aircraft, which affects or could affect the safety of operations.

Operator means any person who causes or authorizes the operation of an aircraft, such as the owner, lessee, or bailee of an aircraft.

Public aircraft means an aircraft used only for the United States Government, or an aircraft owned and operated (except for commercial purposes) or exclusively leased for at least 90 continuous days by a government other than the United States Government, including a State, the District of Columbia, a territory or possession of the United States, or a political subdivision of that government. "Public aircraft" does not include a government-owned aircraft transporting property for commercial purposes and does not include a government-owned aircraft transporting passengers other than: transporting (for other than commercial purposes) crewmembers or other persons aboard the aircraft whose presence is required to perform, or is associated with the performance of, a governmental



## CHAPTER 12: FLIGHT PROHIBITIONS AND EMERGENCY PROCEDURES

function such as firefighting, search and rescue, law enforcement, aeronautical research, or biological or geological resource management; or transporting (for other than commercial purposes) persons aboard the aircraft if the aircraft is operated by the Armed Forces or an intelligence agency of the United States. Notwithstanding any limitation relating to use of the aircraft for commercial purposes, an aircraft shall be considered to be a public aircraft without regard to whether it is operated by a unit of government on behalf of another unit of government pursuant to a cost reimbursement agreement, if the unit of government on whose behalf the operation is conducted certifies to the Administrator of the Federal Aviation Administration that the operation was necessary to respond to a significant and imminent threat to life or property (including natural resources) and that no service by a private operator was reasonably available to meet the threat.

Serious injury means any injury which:

Requires hospitalization for more than 48 hours, commencing within 7 days from the date of the injury was received; results in a fracture of any bone (except simple fractures of fingers, toes, or nose); causes severe hemorrhages, nerve, muscle, or tendon damage; involves any internal organ; or involves second- or third-degree burns, or any burns affecting more than 5 percent of the body surface.

Substantial damage means damage or failure which adversely affects the structural strength, performance, or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component. Engine failure or damage limited to an engine if only one engine fails or is damaged, bent fairings or cowling, dented skin, small puncture holes in the skin or fabric, ground damage to rotor or propeller blades, and damage to landing gear, wheels, tires, flaps, engine accessories, brakes, or wingtips are not considered "substantial damage" for the purpose of this part.

Unmanned aircraft accident means an occurrence associated with the operation of any public or civil unmanned aircraft system that takes place between the time that the system is activated with the purpose of flight and the time that the system is deactivated at the conclusion of its mission, in which:

- Any person suffers death or serious injury; **OR**
- The aircraft holds an airworthiness certificate and sustains substantial damage.



## CHAPTER 12: FLIGHT PROHIBITIONS AND EMERGENCY PROCEDURES

### NTSB INCIDENTS REQUIRING IMMEDIATE NTSB NOTIFICATION

The operator of any civil aircraft, or any public aircraft not operated by the Armed Forces or an intelligence agency of the United States, or any foreign aircraft shall immediately, and by the most expeditious means available, notify the nearest National Transportation Safety Board (NTSB) office, when:

An aircraft accident or any of the following listed serious incidents occur:

1. Flight control system malfunction or failure
2. Inability of any required flight crewmember to perform normal flight duties as a result of injury or illness
3. Failure of any internal turbine engine component that results in the escape of debris other than out the exhaust path
4. In-flight fire
5. Aircraft collision in flight
6. Damage to property, other than the aircraft, estimated to exceed \$25,000 for repair (including materials and labor) or fair market value in the event of total loss, whichever is less.
7. For large multi-engine aircraft (more than 12,500 pounds maximum certificated takeoff weight):
  - a. In-flight failure of electrical systems which requires the sustained use of an emergency bus powered by a back-up source such as a battery, auxiliary power unit, or air-driven generator to retain flight control or essential instruments.
  - b. In-flight failure of hydraulic systems that results in sustained reliance on the sole remaining hydraulic or mechanical system for movement of flight control surfaces.
  - c. Sustained loss of the power or thrust produced by two or more engines.
  - d. An evacuation of an aircraft in which an emergency egress system is utilized.
8. Release of all or a portion of a propeller blade from an aircraft, excluding release caused solely by ground contact.





## CHAPTER 12: FLIGHT PROHIBITIONS AND EMERGENCY PROCEDURES

9. A complete loss of information, excluding flickering, from more than 50 percent of an aircraft's cockpit displays known as:
  - a. Electronic Flight Instrument System (EFIS) displays
  - b. Engine Indication and Crew Alerting System (EICAS) displays
  - c. Electronic Centralized Aircraft Monitor (ECAM) displays
  - d. Other displays of this type, which generally include a primary flight display (PFD), primary navigation display (PND), and other integrated displays.
10. Airborne Collision and Avoidance System (ACAS) resolution advisories issued when an aircraft is being operated on an instrument flight rules flight plan and compliance with the advisory is necessary to avert a substantial risk of collision between two or more aircraft.
11. Damage to helicopter tail or main rotor blades, including ground damage, that requires major repair or replacement of the blade(s).
12. Any event in which an operator, when operating an airplane as an air carrier at a public-use airport on land:
  - a. Lands or departs on a taxiway, incorrect runway, or other area not designed as a runway; or
  - b. Experiences a runway incursion that requires the operator or the crew of another aircraft or vehicle to take immediate corrective action to avoid a collision.
13. An aircraft is overdue and is believed to have been involved in an accident.

### **CAL FIRE AIRCRAFT ACCIDENT INVESTIGATIONS**

The CAL FIRE ASO shall be the lead investigator for all aircraft accident or incident investigations. The NTSB has the authority to investigate all CAL FIRE aviation accidents or incidents under [49 CFR Part 831.20](#). After the NTSB is notified, they may or may not take custody of the aircraft. If the NTSB takes custody of the wreckage, they may permit the ASO to sign a "party to agreement" to participate in the investigation. Once this agreement is signed the NTSB may permit additional CAL FIRE personnel to participate as subject matter experts during the investigation.



## CHAPTER 12: FLIGHT PROHIBITIONS AND EMERGENCY PROCEDURES

### SAFECOM REPORTS

The DOI SAFECOM system shall be employed for all mishaps other than those which are conducted in concert with the NTSB. The following events are considered mandatory reporting items for CAL FIRE aviation personnel and contractors.

Instructions for completing a SAFECOM can be found on this [link](#). Anyone can submit a SAFECOM from any internet capable electronic device. Additionally, the SAFECOM system permits personnel to submit anonymous reports.

#### Events Requiring SAFECOM Reports.

**Property Damage:** Any damage to aerial resource above the reportable mishap threshold of \$5,000.

**Aeromedical Event:** A psychological, physiological, or pathological condition occurring to a qualified flight crewmember when intent for flight exists and the condition results in interference with a qualified flight crew member's duties. This includes flight delays, diverts, or aborts due to conditions affecting a crewmember (e.g., vertigo, suspected or actual hypoxia, toxic exposures, decompression events, preexisting illness, spatial disorientation, other in-flight incapacitation or injury, etc.).

**Precautionary or Forced Landing (Aborted Flight or Takeoff):** Any precautionary landing, aborted takeoff, or failure to get airborne because conditions or circumstances make further flight inappropriate or impossible must be reported, with the following considerations.

- a. Precautionary landings without confirmed failure, malfunction, or damage (e.g., suspected blade strike, warning lights, bird-strike, etc.) and no additional damage occurs during landing are not reportable.
- b. If additional circumstances surrounding the event can be of value to aerial firefighting aviation community, such as capturing trends or communicating lessons learned, the event should be reported and shared by a SAFECOM report.

**Power Loss:** Any engine flameout, failure, substantial loss of power or required engine shutdown, regardless of successful restart. Unintentional shutdowns or shutdowns of the incorrect engine are reportable, regardless of restart. Intentional engine shutdowns not associated with a related emergency procedure (e.g., training, test flight) are not reportable, unless the engine fails to restart or other circumstances surrounding the event can be of value to the fleet.



## CHAPTER 12: FLIGHT PROHIBITIONS AND EMERGENCY PROCEDURES

**Propeller, Rotor, or Engine Wash:** Damage or injury resulting from propeller backwash, rotor down wash, or engine exhaust.

**Weather Related Mishaps:** In-flight encounters with natural hazards such as turbulence, lightning, windstorms, severe static discharge (hoisting), or other weather anomalies.

**Jettison:** Unintentional jettisons of a sling load or other external stores, or any jettison resulting in damage or injury.

**Hoist Shear:** Any intentional or unintentional hoist shear.

**Equipment/Water/Retardant Drops:** Report Equipment/Water/Retardant drops (planned or inadvertent) resulting in injury or property damage. If the drop was intentional, but other aspects of the event can be of value to the community, it should be reported. Inadvertent drops not resulting in damage or injury should also be reported if certain aspects of the event provide learning value to CAL FIRE aviation personnel.

**Things Falling Off Aircraft (TFOA):** Any object unintentionally dropped or falling from an aircraft must be reported regardless of damage or injury.

**Midair Collisions, Serious Near Midair Collisions, and Near Midair Collisions.**

- a. Report all midair collisions and serious near midair collisions regardless of the amount of injury or damage, to the AMU Operational Duty Chief.
- b. A serious near midair collision, is an event where the possibility of collision occurred and either aircraft took evasive action or bodily injury occurred.
- c. A near midair collision is an incident where the possibility of collision results from an aircraft passing within 500 feet of another aircraft, or a pilot or flight crewmember of either aircraft reported that a possible collision hazard occurred between two or more aircraft, to include Unmanned Aircraft Systems.

**Foreign Object Debris/Damage (FOD):** Any hazards or damage to aviation components due to foreign objects or debris.



## CHAPTER 12: FLIGHT PROHIBITIONS AND EMERGENCY PROCEDURES

Inadvertent Instrument Meteorological Conditions (IIMC): Any loss of horizon references and/or an accompanying loss of visual contact with the ground shall be reported. A high percentage of fatal aviation mishaps have been directly attributed to IIMC encounters. It is critical that crews report IIMC to permit the tracking of the number and severity of this known hazard to aerial firefighting crews.

Exposure to Contaminated Water Sources: Use of contaminated water for fire suppression.

Other Reportable Events. Events that do not meet the criteria of a reportable mishap as detailed above but can provide critical information as leading indicators of potential future losses or trends, or can provide valuable lessons, must be reported. While these events are not considered reportable mishaps because they do not exceed the \$5,000 damage threshold nor involve injury or illness, they are operational hazards with the potential to become future mishaps.

Ultimately, the purpose of SAFECOM reports is to alert CAL FIRE aviation personnel and contract operators to hazards so action can be taken to prevent mishaps. Reporting hazards is a vital mishap prevention tool which may daylight previously unidentified risk exposure and potential mishaps.

Risk Assessments. All contract flight crews shall complete a risk assessment at the beginning of a duty shift and revisit the risk assessment if environmental conditions, flight crew fitness, and/or operational tasking changes. During the mission, if any risk factors change, the overall risk assessment should be readdressed. Contractors who have a risk assessment tool as part of their safety program are permitted to use their own organic risk assessment tool to satisfy the requirement.

The Flight Risk Analysis Tool (FRAT) is an excellent model available to contractors seeking to construct a risk management tool.

The intent of the FRAT is to identify and mitigate risks to the lowest level possible. When no suitable alternative to reduce identified risks is available, the mission can be accepted with the knowledge of the risk element as a factor and threat to the safe conduct of the flight.

A copy of the FRAT should be added to the operational information found in each aircraft and in briefing areas for use by flight crews.



## CHAPTER 12: FLIGHT PROHIBITIONS AND EMERGENCY PROCEDURES

Employment of the FRAT for NVG Missions. Historic analysis has determined that fatal aviation mishaps are three times more likely to occur at night. This analysis coupled with low-level operations increases risk exposure exponentially. As a result, CAL FIRE requires FRAT documentation for all night helicopter tactical missions. This FRAT shall be provided to the ABTM or Helibase Manager prior to executing each night operation.

Night Fire Suppression Response. Flight crew members may elect to conduct a day reconnaissance if:

- Unfamiliar with the fire location
- Unfamiliar with hazards and/or obstacles near the fire location
- FRAT overall risk element is RED (requires approval by the AMU Operations Duty Chief)
- Any time the flight crew elects conditions are unsafe

NVG HLCO shall be assigned to any incident where (3) or more aircraft are conducting low-level operations (500 feet AGL and below) in the same area.



## CHAPTER 13: TACTICAL OPERATIONS

### FIRE TRAFFIC AREA

Overview. The airspace surrounding an incident is managed by the aerial supervisor who must implement FTA procedures. All wildland incidents, regardless of aircraft on scene, has an FTA. If an incident has an active Temporary Flight Restriction (TFR) in place, the FAA provides conditional control of the TFR to a controlling aircraft at-scene. Clearance from the controlling aircraft is required prior to TFR entry. If aerial supervision is not at scene, the first aircraft at scene will establish the FTA protocol.

Communications Failure. In the event of a communications failure, attempt to establish communications with Guard 1 and Guard Air-to-Air VHF-AM 122.925. If still unable to establish communications, terminate the flight and return to base or the nearest suitable airfield. Upon landing, contact the ATBM or Helibase Manager to report the condition.

Failure to maintain communications may result in activation of the CAL FIRE or Interagency Emergency Action Procedures.

The frequency map in APPENDIX B provides preassigned common frequencies for the CAL FIRE SRA and USFS.

Airspeed in the FTA. Indicated airspeed shall be no greater than 170 knots inside the Initial Communication Ring.

Key components and procedures of the FTA include:

Initial Communication Ring. A ring 12 NM from the center point of the incident. At or prior to 12 NM, inbound aircraft contact the ATGS or appropriate aerial resource for permission to proceed to the incident. Briefing information is provided to the inbound aircraft by the aerial supervisor over the incident.

**Inbound Aircraft:** "Copter 104, 12 miles east at 1000 feet on Air Tactics 1."

**Aerial Supervision:** "Copter 104, you are cleared into the FTA, at 1000 feet, maintain 500 feet at 5 miles, altimeter 29.92, *followed by other traffic, assignment, known hazards, and frequencies....*".

No Communication (NOCOM) Ring. A ring 7NM from the center point of the incident that should not be crossed by inbound aircraft without first receiving clearance from the appropriate at scene incident aircraft.

Three (3) Cs of Initial Contact. Communication requirements and related actions to be undertaken by the pilot of the inbound aircraft:

- **Communication** – Establish communications with the controlling aerial supervisor or an aircraft at scene if there is no aerial supervision.



## CHAPTER 13: TACTICAL OPERATIONS

- **Clearance** – Receive clearance from aerial supervisor (or at scene aircraft if there is no aerial supervision) to proceed to the incident past the NOCOM ring. Inbound pilot will acknowledge receipt of clearance or hold outside the NOCOM ring until the clearance is received and understood.
- **Comply** – Inbound aircraft will comply with clearance. If compliance cannot be accomplished, the inbound aircraft will remain outside the NOCOM ring until an amended clearance is received and understood.

Report on Conditions. Upon reaching the fire, the first aerial resource shall broadcast a Report on Conditions to the Incident Commander and/or controlling ECC. The purpose of this broadcast is to provide Incident Commanders and ECCs critical information to generate appropriate strategies and to order/dispatch necessary additional resources.

The following are elements of a Report on Conditions:

Location	Approximate Size (acres)
Rate of Spread	Exposures, if any
Potential (in acres)	Hazards

Departing Aircraft. Aircraft departing the FTA must follow assigned departure routes and altitudes instructed by the Aerial Supervisor. Aerial Supervisors must deconflict routes for departing aircraft within the airspace.

Initial Points (IPs). A fixed wing aircraft reporting location clearly identified by the Aerial Supervisor. It may be a latitude and longitude or a geographic point (landmark). IPs are used to route incoming aircraft to a known location before engaging in tactics.

Checkpoint. A helicopter reporting location clearly identified by the aerial supervisor. It may be a latitude and longitude or geographical point (landmark). Checkpoints are used to route helicopters to and from assignments.

Helicopters using checkpoints while transitioning and established route will announce their direction and intended destination via call in the blind script on the assigned air-to-air frequency. When sequencing aircraft helicopter checkpoint should be set up close to the target area that is not in the fixed-wing final/departure flight path. Helicopters should call off each dip and drop.

Holding Areas. Any known location can be used by aerial supervisors to hold aircraft. There can be multiple areas on an incident being used at the same time for multiple aircraft at different locations.

- Pilots must be aware of other aircraft in their assigned holding area.



## CHAPTER 13: TACTICAL OPERATIONS

- Pilots must be able to communicate position reports to each other.
- Holding area must be clearly defined by a geographical reference point or distance and direction, relative to the incident aircraft will normally establish a racetrack pattern where they are flying at the same altitude and providing their own visual separation.
- Aircraft must receive clearance to depart the holding area once assigned.
- Helicopters can be held on the ground or in the air as needed to maintain adequate separation.

Sequencing. Sequencing is a technique used to deliver multiple aircraft to a shared target area. Sequencing can be done between fixed-wing aircraft and helicopters to the same target areas but should be actively managed by an Aerial Supervisor.

Non-Standard Maneuvers. A non-standard maneuver is an abnormal, unusual, or unpredictable action. Non-standard maneuvers may be necessary at times when a standard tactic jeopardizes safety or is considered ineffective. A non-standard maneuver must be approved by aerial supervision due to its impact on other operations.

Some examples of non-standard maneuvers are:

- A target identification flyover
- Air Tanker drop performed out of a RIGHT turn
- A helicopter responding to a new or unassigned route within the incident boundary
- Any aircraft deviating from the assigned or expected altitude
- Helicopter split loads

Non-standard maneuvers **shall be** approved by aerial supervision prior to initiation.

### HELICOPTER OPERATIONS IN THE FTA

In the FTA, ensure landing lights are ON or forward-facing pulse light(s) are ON, if equipped. Ensure landing lights are OFF upon landing in grass areas to prevent accidental fires.

Announce “*At-Scene*” on the assigned Air Tactics VHF-FM frequency. If the aerial supervisor is HLCO, a separate frequency may be assigned.





## CHAPTER 13: TACTICAL OPERATIONS

Pilots are responsible for maintaining visual separation from other aircraft and shall announce all intentions on the assigned frequency for situational awareness.

While operating in the FTA, be cognizant of power management, environmental conditions, entry/exit paths, emergency exit routes, and traffic flow.

When operating with other aircraft in a “daisy chain”, aerial supervision is expecting a full drop. Split loads requiring maneuvering shall be coordinated with aerial supervision.

Pilot **mandatory** reports to Aerial Supervision are as follows:

Leaving the dip	Leaving the drop
At scene	Departing scene
Precautionary Emergency Landing	Landing for reconfiguration

Pilot must **receive clearance** from the Aerial Supervision **prior to** conducting the following:

Entering the FTA	Departing the FTA
Entering the TFR	Departing the TFR
Departing a landing zone in the FTA	Non-Standard Maneuver – including split drops
Clearance past a mandatory reporting point	Deviating from assigned altitude
Changing frequencies	

**Drop Safety.** It is incumbent upon the PIC to ensure the fire suppressant load is safe and the drop altitude is sufficient to minimize rotor influence on the target. Fatal accidents to ground personnel have occurred due to rotor influence on vegetation.

**Fireline Clearance.** Prior to any fire suppressant drops, the flight crew shall ensure the line is clear via the assigned air-to-ground VHF-AM frequency if ground personnel are in the immediate area.

The drop shall not commence until this clearance is received.

**Use of Personal Floatation Devices (PFDs).** All crew members shall wear PFDs when conducting any low-level overwater operations.



## CHAPTER 13: TACTICAL OPERATIONS

### FIXED WING AIRCRAFT OPERATIONS IN THE FTA

Fixed Wing FTA Procedures. In the FTA, ensure landing lights are ON or forward-facing pulse light ON, if equipped.

Announce “*At-Scene*” on the assigned Air Tactics VHF-FM frequency. Enter the FTA in level flight at the assigned altitude at no more than 170 KIAS.

Air Tanker Holding Pattern. Enter the holding pattern with a perpendicular entry. Sequence in with other aircraft, if required, and maintain a left-hand orbit around the fire.

Pilots are responsible for maintaining visual separation from other aircraft and shall announce all intentions on the assigned frequency for situational awareness.

Air Tanker Maneuvering. Air Tankers may not descend from assigned holding altitude until cleared by aerial supervision. Upon receiving the clearance to drop, the Air Tanker shall descent to at least 500 feet below the Air Tanker Holding Pattern to prepare for the retardant drop.

Maneuvering for a Fire Suppressant Drop. At an altitude of 1000 feet AGL, the Air Tanker will maneuver to fly the downwind and base leg. Once on final approach, the Air Tanker may descend to the appropriate drop altitude based on ICS aircraft type.

While maneuvering for the retardant drop, pilots shall announce “*Downwind*”, “*Base*”, “*Final*”, and “*Clear*”. If the situation requires a right-hand pattern, pilots shall announce “*Right Downwind*”, “*Right Base*”, “*Final*”, and “*Clear*”.

It is imperative that Air Tankers are established on a stabilized approach throughout the drop sequence and climb out.

Fire Suppressant Drop Height. Fire suppressants shall be dropped at a minimum height to ensure the horizontal (forward) velocity of the fire suppressant has stopped in no wind or headwind conditions.

Fire suppressant forward velocity should be no greater than tailwind or crosswind speed prior to reaching the top of vegetation. Drop height will vary depending on drop system design, coverage level, airspeed, and winds.

Recommended drop height should be no lower than 150 feet AGL. No damage to persons or property shall be caused by the dropping of fire suppressants.



## CHAPTER 13: TACTICAL OPERATIONS

Traffic Check. A traffic check is a required advisory call from a loaded Air Tanker to the Air Base. The traffic check shall be made at a minimum of (3) minutes prior to landing.

This advisory allows the ECC and the GACC time to divert an aircraft in flight if the aircraft can respond.

Jettison Areas. ATBM are responsible for establishing an approved retardant jettison area. The location of jettison areas shall be depicted on aerial hazard maps to include the latitude and longitude of each jettison site.

Ensure the latitude, longitude, and a brief description are readily available to the ABRO so they may be relayed by radio to an airborne aircraft unfamiliar with the local area.

Retardant Avoidance Areas. If retardant is applied within 300 feet of a waterway or terrestrial exclusion zone, the Incident Commander shall be notified, and a [CAL FIRE Wildland Fire Chemical Reporting Form](#) shall be filed.

Retardant avoidance areas shall be depicted on maps provided by Air Base Managers.

Maximum or Near Maximum Gross Weight Landings. To maximize use of retardant, Air Tankers are authorized to land with a retardant payload at any time and at the discretion of the PIC as the safest option. The PIC is responsible for performance planning and runway/taxiway weight restrictions.

Jettisoning Retardant Prior to Landing. Procedures for jettisoning retardant prior to landing is as follows:

1. Determine quantity of retardant to be jettisoned
2. Identify the closest approved jettison area
3. Contact the landing air base for a TRAFFIC CHECK at least (3) minutes prior to jettison.
4. Upon receiving NEGATIVE TRAFFIC, jettison as required

Jettisoning 30 Minutes After Sunset. Air Tankers shall make every effort to jettison retardant payloads prior to 30 minutes after official sunset. Retardant must be jettisoned within an approved jettison area at a height of 1000 feet AGL.

Emergency Jettison. In the event of an aircraft emergency, flight crews may jettison retardant at any altitude and location. To the maximum extent possible, emergency jettison shall avoid congested areas, structures, vehicles, agriculture fields, and bodies of water. Once the emergency is mitigated, report the location of the emergency jettison to the nearest Air Base.



## CHAPTER 13: TACTICAL OPERATIONS

### LEAD PLANE OPERATIONS

Overview. Pilots may be required to utilize lead planes when operating on complex fires or when encountering poor visibility due to smoke, turbulence, and in steep terrain. The purpose of the Lead Plane is to enhance safety, drop accuracy in adverse conditions, and ensure orderly flow of operations. Pilots shall adhere all instructions provided from the lead plane.

Following a Lead Plane. When following a lead plane, maintain continuous two-way communication. Once cleared for final on the drop run, the pilot shall maneuver to a position where it can safely follow the lead plane through the entire drop sequence and climb out.

To maintain adequate aircraft deconfliction, the airspeed for the drop run will be determined by the Air Tanker pilot.

Once established behind the Lead Plane, the Air Tanker shall follow the Lead Plane flight path.

Air Tanker – Lead Plane Deconfliction. If the Air Tanker is closing on the Lead Plane, the pilot will immediately inform the Lead Plane to increase airspeed.

If an overrun is unavoidable, the Air Tanker shall announce intentions and exit route. It is recommended the Air Tanker climbs and overtakes above the Lead Plane. If in a turn, climb and turn in the opposite direction of the Lead Plane turn.

If visual contact with the Lead Plane is lost, both pilots shall communicate and establish a safe course of action to abort the run and re-establish a rendezvous point for a subsequent drop sequence.

Pilots will follow the procedures, tactics, and policies below when operating on CAL FIRE missions:

### COMMON SCENARIOS

Initial Attack WITHOUT Aerial Supervision. Initial Attack aircraft are authorized to perform fire suppression missions without supervision. The following shall apply:

The first Air Tanker or fire-suppression helicopter on scene shall:

- Transmit a 12-mile and 7-mile blind call on the primary assigned air-to-air VHF-FM frequencies and 122.925. Provide the aircraft location, altitude, altimeter setting, and intentions.



# CHAPTER 13: TACTICAL OPERATIONS

- Contact the Incident Commander on the assigned VHF-FM air-to-ground frequency to verify no other aircraft are at-scene.
- If there is no Incident Commander at-scene, the initial attack aircraft shall provide a Report on Conditions broadcasted on the dispatch command frequency.
- Orbit the fire at least once. Analyze and transmit to the Incident Command the Initial Attack Report on Conditions (see Frequency Map – upper right corner).
- Maintain situational awareness of incoming aircraft and their position.
- Provide Incident Commander information to establish objectives and priorities.
- If ground personnel are not available or radio contact cannot be established, the Air Tanker or helicopter will begin aerial fire suppression.
- Subsequent air tankers will also attempt to contact ground personnel for instructions. If contact cannot be established, the subsequent aircraft shall wait until the preceding air tanker has completed all drops and follow the plan that has been developed.

Only one aircraft may fulfill the role as the Aerial Supervisor at any one time.

Anytime a CAL FIRE Helitack Captain is at-scene, the Helitack Captain shall control the FTA until relieved by a higher level of aerial supervision.

Initial Attack WITH an Aerial Supervisor. Initial Attack aircraft will enter the FTA and instructed by the Aerial Supervisor.

The following shall apply:

Provide the 12-mile initial contact call to the Aerial Supervisor.

Call Sign	Position (distance/direction from the fire and altitude)
Intentions	



## CHAPTER 13: TACTICAL OPERATIONS

Your clearance will be provided by the Aerial Supervisor into FTA and will include:

Altimeter <small>Note 1</small>
Clearance <small>Note 1</small>
FTA entry altitude <small>Note 1</small>
Altitude of Aerial Supervisor
Other aircraft
Obstacles and Hazards

Note 1: Must be read back to Aerial Supervisor

Maintain visual separation from other aircraft and communicate distance and clock position when you see aerial supervision.

The simultaneous operation of any combination of air tankers and helicopters will occur only with aerial supervision. All participating aircraft and pilots will use the frequencies assigned on the FC-106.

EXTENDED ATTACK with Aerial Supervision. An extended attack fire is defined as an incident that has extended beyond the Initial Attack phase. Extended Attack aircraft will enter the FTA and be provided objectives when cleared by aerial supervision. The following shall apply:

The following shall apply:

Provide the 12-mile initial contact call to the Aerial Supervisor.

Call Sign	Position (distance/direction from the fire and altitude)
Intentions	

Your clearance will be provided by the Aerial Supervisor into FTA and will include:

Altimeter <small>Note 1</small>
Clearance <small>Note 1</small>
FTA entry altitude <small>Note 1</small>
Altitude of Aerial Supervisor
Other aircraft
Obstacles and Hazards

Note 1: Must be read back to Aerial Supervisor



## CHAPTER 13: TACTICAL OPERATIONS

Maintain visual separation from other aircraft and communicate distance and clock position when you see aerial supervision.

The simultaneous operation of any combination of air tankers and helicopters will occur only with aerial supervision. All participating aircraft and pilots will use the frequencies assigned on the FC-106.

Air Tankers shall contact the Aerial Supervisor for flight instructions to and from the incident if unknown.

Vertical Reference Longline (VRLL) Operations. VRLL is defined by CAL FIRE as an external load greater than 50 feet below the helicopter.

The pilot shall not allow Class C or D helicopter load combination operations to be conducted, unless specifically approved by CAL FIRE AMU or USFS Regional Aviation Officer of unified command. VRLL operations shall be planned and coordinated with helibase personnel. It is imperative to understand CAL FIRE/USFS hand signals.

Hover hook-ups are approved.

Water Bucket Operations. Environmental conditions may dictate the need for more than one size bucket. Use of a bucket quantity less than the manufacturer's adjustment level (partial dip) is not authorized.

Exception – Type I helicopters equipped with an electronic hook load measuring systems (load cells); and

Provides a cockpit readout of the actual external load; and

A bucket equipped with a gated system which allows a partial dispersal of a load.

### **NON-EMERGENT FLIGHTS**

Overview. Pilots will obtain approval from the following sources for flights such as training, proficiency, or maintenance.

Flight Clearance for Non-Emergent Flights. Request for non-emergent flights shall be made through the ATBM or Helicopter Manager. The ATBM or Helicopter Manager will notify the AMU Operations Duty Chief and/or GACC, as required.

A Maintenance Release shall be obtained from the AMU Maintenance Duty Chief prior to conducting a maintenance test flight. Once the maintenance test flight and maintenance documentation are completed, the aircraft is released for operations.



## CHAPTER 13: TACTICAL OPERATIONS

Point-to-Point (Non-Emergency) Mission. Aircraft movement without a resource order number or incident number is prohibited and shall not be reimbursed.

If the aircraft movement is a reimbursable flight, the aircraft shall monitor required frequencies, be available for dispatch, and attempt to fly the most direct route to the destination.

CAL FIRE-Contracted Aircraft on a Federal Incident. Operators shall file an FAA flight plan for all airport-to-airport flights.

Pilots will contact the National Interagency Coordination Center prior to departing and upon arrival to each airfield enroute to a federal incident. The Incident Commander will be responsible for reporting the arrival at the incident.

Currency and Training Flights. In the event that a contract aircraft has not flown for a period of six consecutive days, the flight crew is authorized a 30-minute proficiency and systems check flight at the hourly flight rate. This shall be accomplished during regular standby hours on the 7<sup>th</sup> day. For aircraft equipped to do so, retardant shall not be dropped during these flights.

Joint CAL FIRE-EU Required Training. If CAL FIRE requires training with EU aircraft, CAL FIRE shall be billed at the regular hourly rate. This joint training is highly encouraged and is critical in maintaining EU proficiency as an initial attack aerial resource.

Contract Flight Crew Qualification Flights while on Contract/Agreement. Training flights towards attaining a specific mission qualification are authorized if not requested by CAL FIRE. The cost shall be borne by the contractor.

If the specific mission qualification is requested by CAL FIRE, the cost shall be borne by CAL FIRE.

Request for flight crew qualification flights shall be made through the ATBM or Helicopter Manager. The ATBM or Helicopter Manager will notify the AMU Operations Duty Chief and GACC, as required.

Flight Crew Member Proficiency Verification Flight. Flight crew members are subject to an inflight evaluation by CAL FIRE Inspector Pilots.

### **START UP AND CUTOFF**

Overview. All contracted aircraft shall comply with the daily startup times dictated by each respective Region Chief. Location-specific startup and cutoff schedule is produced by the ATBM or Helicopter Manager.

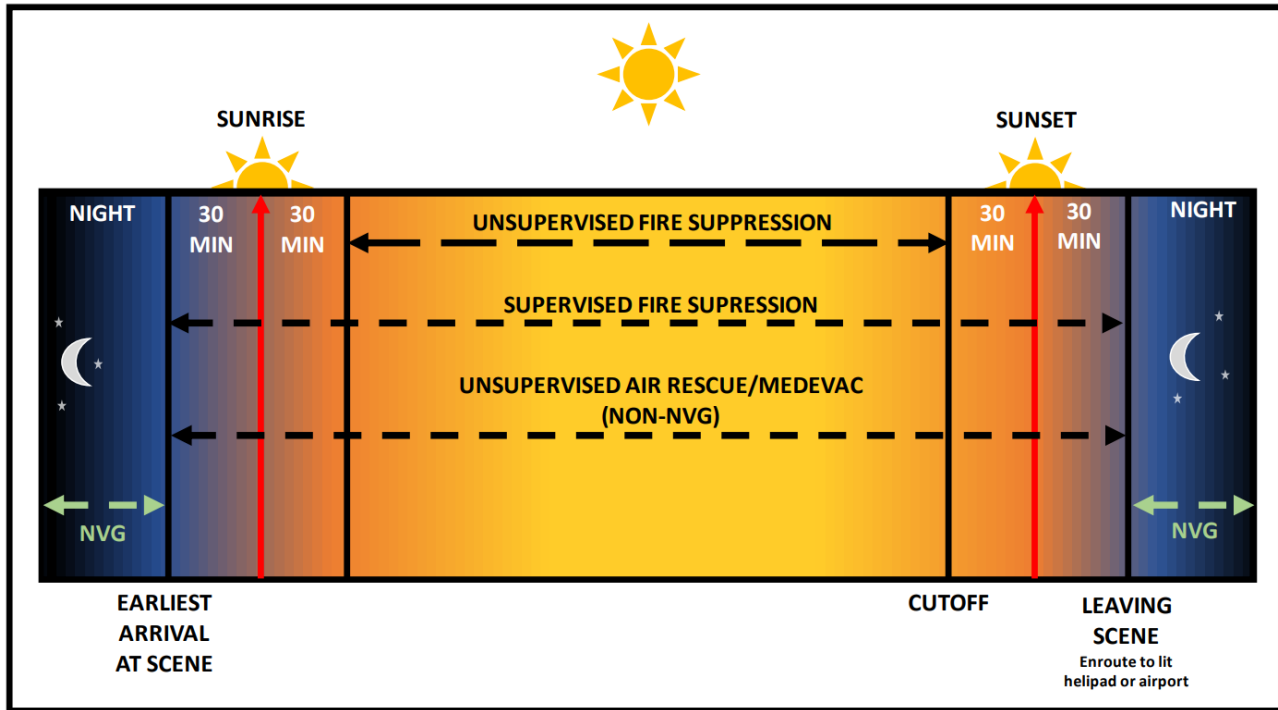




# CHAPTER 13: TACTICAL OPERATIONS

Definition of Cutoff. 30 minutes prior to the base location official sunset. All CAL FIRE Helitack and Air Bases shall utilize the [U.S. Navy Observatory Astronomical Application Department](http://www.noaa.gov) website to determine official sunset.

Figure 5. Startup and Cutoff Chart



All contracted aircraft shall cease operations when not supporting an incident at Cutoff.

Cutoff-Exempt Operations	Criteria
NVG Operations	NVG minimum altitude and weather limits
Aircraft Relocation	Night minimum altitude and weather limits
Initial Attack	Flight crew members and ATGS concurrence
	Safety Brief
	Distance to the incident
	Weather
	Ambient light conditions
	Familiarity with hazards



# CHAPTER 13: TACTICAL OPERATIONS

	No low-level tactical operations 30 minutes after sunset or 30 minutes prior to sunrise <small>Note 1</small>
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Note 1: Except for tactical NVG operations.



# CHAPTER 14: BASE OPERATIONS

## GENERAL BASE OPERATIONS

Area of Responsibility (AOR). A depicted geographic area used to identify the closest Air Base to an incident (as determined by the aerial resource proximity system of record) from which an ECC can directly request aerial resource regardless of unit or agency boundaries.

Base locations are established to ensure fire suppression operations are conducted within 20 minutes of dispatch on SRA land based upon aircraft cruise speed.

Outside AOR. The area outside of a normally assigned AOR where aerial resources are required to supplement fire suppression operations.

Air Attack Base. A permanent facility with an assigned AOR.

Table 19. Air Attack Bases

Rohnerville (KFOT)	Grass Valley (KGOO) <small>note 1</small>
Redding (KRDD) <small>note 1</small>	Columbia (O22)
Chico (KCIC)	Hollister (KCVH)
Ukiah (KUKI)	Fresno (KFAT) <small>note 1</small>
Sonoma (KSTS)	Porterville (KPTV) <small>note 1</small>
Paso Robles (KPRB)	Hemet (KHMT)
Ramona (KRNM)	

Note 1: Joint base with U.S. Forest Service

Air Tanker Base. A permanent facility used to support Air Tanker operations without an assigned sphere of influence. A temporary AOR may be assigned, however does not constitute the definition of an Air Attack Base. McClellan (KMCC) is the only Air Tanker Base.

Air Tanker Base – VLAT. The only approved CAL FIRE Air Base that is equipped to support VLAT operations is McClellan (KMCC).

Reload Base. A temporary facility used to support Air Tanker operations.

CAL FIRE Helitack Base. A permanent facility with an assigned AOR.



# CHAPTER 14: BASE OPERATIONS

Table 20. CAL FIRE Helitack Bases

North Region (CNR)	South Region (CSR)
Kneeland (O19)	Columbia (O22)
Bieber <sup>note 1</sup>	Prado <sup>note 1 note 3</sup>
Vina <sup>note 1 note 3</sup>	Hollister (KCVH) <sup>note 3</sup>
Howard Forest <sup>note 1</sup>	Hemet-Ryan (KHMT) <sup>note 3</sup>
Boggs Mountain <sup>note 1</sup>	Gillespie (KSEE) <sup>note 2 note 3</sup>
Alma <sup>note 1 note 3</sup>	

Note 1: Helitack Base does not operate from an airport.

Note 2: Helitack Base does not operate CAL FIRE helicopters; CAL FIRE helitack crews are utilized.

Note 3: Year round; 24-hour Bases (NVG)

**Incident Helibase.** A temporary facility in support of a specific incident managed by an Incident Command.

## **AIRCRAFT STORAGE AND BASE FACILITY SECURITY PLAN**

**Aircraft Storage.** Contracted aircraft shall have the following safeguards installed and/or performed when not available for response:

Table 21. Fixed Wing Aircraft Storage Requirements

Sunshades	Chocks
Grounding Wire	Engine Intake Plugs
Engine Exhaust Plugs (if available)	Pitot/Static Plugs
Canopy Covers (inclement weather)	Landing Gear Pins
Aircraft Tiedown (inclement weather)	Emergency Dump Switch Guard (if available)
Canopies, Doors, and Panels Locked	Canopy Pins
Battery Main Disconnect Switch	Flight Control Gust Locks
Aircraft pointed into expected wind (>15 knots)	



## CHAPTER 14: BASE OPERATIONS

Table 22. Helicopter Storage Requirements

Sunshades	Chocks
Grounding Wire	Engine Intake Plugs
Engine Exhaust Plugs (when available)	Pitot/Static Plugs
Cockpit Covers (inclement weather)	Batteries disconnected
Rotor Blade Tiedown (inclement weather)	Nose and Doors Locked
Battery Main Disconnect Switch	Flight Control Gust Locks
Aircraft pointed into expected wind (>15 knots)	

Permanent Facility Security. Air Bases and Helitack Bases shall utilize the following security measures:

Table 23. Facility Security Measures

FAA-compliant physical barriers	Lockable doors and windows
Recordable Camera System	Adequate outdoor lighting for facilities
FAA-compliant ramp lighting	Visitor Log
Restricted access signage/markings	Homeland Security Threat Condition Advisory
Locking Fuel Sources (Bulk fuel storage, trucks, and tank access)	Lockable tool and parts storage

Air Base Security Plan. Each CAL FIRE Air Base and Helitack Base shall have a written Base Security Plan located in the CAL FIRE Base Operations Guide. The Base Security Plan shall include but is not limited to the items in Table 22.

Incident Base Security. Each Incident Air Base and Helibase shall ensure adequate security is provided by CAL FIRE prevention officers or contracted security. It is essential that all personnel are vigilant regarding their surroundings and that all non-incident personnel shall either be checked in to the ATBM or Helibase Manager or requested to leave the premises.

### Inclement Weather Plan:

The Pilot in Command (PIC) is the final authority for the safety and security of the aircraft. When applicable, all inclement weather safeguards outlined in the Operator's Manual must be adhered to.

When inclement weather may be a concern, both Pilot and ATBM or Helibase Manager must develop and document a contingency plan in writing for the operational area to identify potential relocation destination(s) that will afford the best protection of the



## CHAPTER 14: BASE OPERATIONS

aircraft. All requests to relocate aircraft shall be approved by the AMU Operations Duty Chief.

### **GROUND SUPPORT OPERATIONS**

Ground Operations. Prior to aircraft movement, clearance shall be received, and required ground crews shall be posted. The driving of road vehicles under aircraft wings or helicopter rotors are not authorized.

Handheld Radios and Headsets. Air bases, helitack bases, and helibases shall have handheld VHF-AM radios capable of connecting to aviation headsets for use on the ramp.

Base VHF-AM Frequencies (Base Victor). Each base is assigned a VHF-AM frequency. This frequency is the primary mode of communication between the ground and aircraft and shall be monitored by the air base.

Each base is responsible for developing local procedures for the use of Base Victor and shall be incorporated in the Air Base Operations Plan.

Base Radio Discipline. During takeoff and landing flight phases, ground personnel shall limit contacting an aircraft unless advising of an actual or potential aircraft emergency.

Bases may make a single informative blind call to notify aircraft of a divert or cancel but should not expect an immediate response during takeoff and landing flight phases.

Towing of Aircraft. Aircraft towing shall comply with the aircraft operator's manual. It is essential that wing walkers are available as required.

Hand Signals. The primary mode of communication during ground operations shall be the use of approved hand signals. During low light operations lighted wands shall be used.

Each air base or helibase will provide training for hand signals.

Fixed Wing Walking. Wing walking is critical to ground operations safety. When the Fixed Wing Parking Tender (FWPT) cannot see or judge the distances between the aircraft being parked and any obstacle nearby, wing walkers are required.

Wing Walkers are required anytime a LAT/VLAT is within 30 feet of any object that could contact the wing, engines, and/or fuselage.

The FWPT shall stop the aircraft anytime the aircraft appears to be within 10 feet of an object that could contact the wing, engines, and/or fuselage.

Wing Walkers are not required when the aircraft is taxiing on an established taxi line which conforms to the aircraft size and type.



## CHAPTER 14: BASE OPERATIONS

Helicopter Wing Walking. Wing walking is critical to overall ground safety. Wing Walkers are required anytime the helicopter is ground taxiing within 10 feet of any object that could contact the aircraft.

Wing Walkers are not required when the aircraft is taxiing on an established taxi line which conforms to the aircraft size and type.

Vests for Ramp Personnel. Ground operations personnel are identified by their vest color. The following are the approved vest colors for ground operations:

Table 24. Vest Color Identification

Position	Vest Color
Ramp Manager	Green
Fixed Wing Parking Tender	Orange
Loaders	Blue
Fuelers (CAL FIRE personnel only)	Purple

Aviation Fueling Surveillance Program. All aircraft fuel sources shall comply with strict fuel quality standards and storage standards in accordance with the following:

Table 25. Fueling Surveillance Program Reference

FAA AC-150 (series)	National Fire Protection Association, Standard for Aircraft Fuel Servicing (NFPA 407)
Air Transportation Association of America, Standards for Jet Fuel Quality Control at Airports (ATA Specification 103 (series)	Manual Sampling of Petroleum Products, ASTM-D4057
Sheeting for Retroreflective Traffic Control, ASTM-D4956	American Petroleum Institute (API) documents 650, 653, 1529, 1542, and 1581
Standard Guide for Use of the Petroleum Measurement Tables, ASTM-D1250	

Introduction. Fire or explosion hazards are always present in locations where fuels are handled. Safe fuel service depends on keeping fuels in controlled areas, avoiding spills, and keeping all ignition sources 50 feet away from designated servicing areas and tank farms (NFPA 407, 5.8.2).



## CHAPTER 14: BASE OPERATIONS

Flight crews are responsible for ascertaining the correct fuel required for individual aircraft and for assuring that the aircraft is serviced with the correct fuel. If existing circumstances require the use of fuel other than the primary fuel, responsibility will extend to assuring the mechanical and operating adjustments are made as necessary.

Table 26. Approved Types of Fuel.

Fuel Type	Flash Point	Freezing Point	NATO Code	MIL SPEC	Density (API Gravity)
JP-4	<18°C	-58°C	F-40	MIL-DTL-5624	45-57
JP-5	60°C	-58°C	F-44	MIL-DTL-5624	36-48
JP-8	38°C	-47°C	F-34	MIL-DTL-83133	37-51
JET A	38°C	-40°C	F-34	ASTM-D1655	37-51
JET A-1	38°C	-40°C	F-35	ASTM-D1655	37-51
JET B	-18°C	-58°C	N/A	ASTM-D8815	45-61

### WARNING

**Aviation turbine fuels (JP 4/Jet B) carry a health hazard for detectable amounts of chemicals like benzene, which are known to cause cancer, birth defects, and other reproductive harm.**

### CAUTION

**Keep fuel JP-5 away from all sources of ignition and oxidizers. Avoid eye or skin contact. Avoid inhalation and ingestion. Wash hands thoroughly after handling.**

JP-5. JP-5 is a kerosene fuel with a high flash point of 140 °F and a freezing point of -51°F. It can also be procured under military specification MIL-DTL-5624. The higher flash point provides an increased level of safety for military applications.

JP-8. Provided under military specification MIL-DTL-83133 (series), is a kerosene fuel similar to commercial jet fuel, ASTM Jet A-1, except that JP-8 contains fuel system icing inhibitor as well as other fuel additives. It is similar to JP-5 with respect to most fuel properties except the flash point, which is only 100 °F (min).

Jet A. Jet A is a commercial grade of fuel that meets the specifications of ASTM-D1655. It is very similar to JP-5, except that it has a lower flash point of approximately 100 °F compared to the 140 °F flash point for JP-5.





## CHAPTER 14: BASE OPERATIONS

Jet A-1. Jet A-1 is a commercial grade of fuel that meets the requirements of ASTM-D1655. It is very similar to JP-8 and has the same flash point and freezing point. Its NATO code is F-35.

Jet B. Jet B is a commercial grade of fuel that meets the requirements of ASTM-D6615. It is very similar to JP-4 and has the same flash point and freezing point. Jet B can be used as a replacement when JP-4 is not readily available. It does not have a NATO code number.

Turbine Fuel Additives. Jet A and Jet A-1 are essentially the same fuel as their military counterparts (JP-5 and JP-8) however, do not contain the following additives:

- Fuel System Icing Inhibitor (FSII)
- Lubricity Additive (Corrosion Inhibitor)
- Antioxidants (storage stability additives)
- Static Dissipater Additive (SDA) (JP-8 only)
  - Some SDA additives can break down filter elements.

Aircraft Fueling Sources. Aircraft shall utilize approved fuel grades in accordance with each aircraft's flight manual. Fuel sources are typically Fixed-Base Operations (FBO) commercial fuel sources or fuel sources procured via a CAL FIRE contract if applicable.

Types of Fuel Contamination. Aircraft engine failure or poor performance can be caused by fuel contamination or by using an improper fuel. There are four major classifications of contaminants commonly encountered in aviation fuels: Particulates, water, microbes, and surfactants. The most serious situation occurs when there are multiple contaminants.

Particulates. Particulates are solid contaminants that will not dissolve in fuel. Most common are iron, rust, scale, sand, and dirt. Other examples are metal particles, lint, particles of filter media, gums, resins, and rubber. The consequences of particulate contamination in aviation fuels may be severe if the material is allowed to reach the aircraft. For example, if fuel filters become plugged, the flow of fuel to the engine is interrupted, resulting in engine failure.

One method of removing particulates is to provide a minimum of 2 hours for solids to settle before the fuel is withdrawn from the storage tanks. A better method is to recirculate the fuel through filters/separators. The maximum acceptable level of particulate contamination is **2 mg/l**. Particulate contamination can be held well below a level of 1 milligram per liter (mg/l) in a properly functioning fuel distribution system.

If contamination exceeds **1 mg/l**, corrective action should be taken to improve fuel quality.



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Water. Water is a common contaminant of aviation fuel and exists in three forms: Dissolved, entrained, and free water (either liquid or frozen). Of these three, free water is the only form that can be drawn off or separated from the fuel. Dissolved or entrained water can, however, be reduced to free water and then drawn off or separated. The limit for water in aircraft turbine fuel is **10 parts per million (ppm)**.

Dissolved Water. Dissolved water is essentially humidity in fuel. Like humidity in the atmosphere, it evaporates and condenses as a function of temperature. All aviation fuels have varying amounts of dissolved water depending upon the fuel composition and temperature. For example, at 60 °F petroleum-based fuels will dissolve 60 ppm while at 30 °F the same fuel will dissolve only 30 ppm. Lowering fuel temperatures will cause dissolved water to condense into water droplets and fall out of solution as entrained water. Except for changing to the free state upon temperature drop, dissolved water does not pose a problem to aircraft and currently cannot be removed by practical means.

Entrained Water. Entrained water is water suspended in tiny droplets in the fuel.

Individual droplets may or may not be visible to the naked eye, but they can give the fuel a cloudy or hazy appearance depending upon their size and number. Entrained water usually results from violent agitation between a water slug and fuel. It usually will settle out in time depending upon the droplet size, specific gravity, viscosity of the fuel, and currents within the tank. A water haze may often be found in turbine fuels.

### WARNING

**Free water in the form of water slugs, visible water droplets, or hazy entrained water is prohibited in a fuel handling system and should never be delivered into an aircraft.**

### NOTE

**Free water will settle out in fuel if not disturbed or agitated.**

Free Water. Free water is water completely free of fuel and may be fresh or saline. It can be accumulated by the settling of condensed moisture from the atmosphere, by the infiltration of water through fill lines, vents, or tank connections, or by the delivery of fuel containing water.

Large slugs of free water can cause an engine flameout. Ice from slugs and entrained water can severely restrict fuel flow by plugging aircraft fuel filters and other mechanisms.



## CHAPTER 14: BASE OPERATIONS

An adverse side effect of accumulations of undrainable water in any storage tank is the growth of microbes and a reduction of the level of the FSII.

Microbes. Microbes are microscopic growths found in soil, air, water, and fuel oil. They derive their nutrients from hydrocarbons in the fuel and add their metabolic waste products to the aqueous layer. There is considerable evidence that microbes can survive even in the absence of water. In a fuel storage tank, microbes may propagate at a very high rate.

Microbes usually appear as a brown slime that adheres to the inner surface of a fuel tank. Both the organisms and their products tend to collect at fuel/water interfaces resulting in mats, slimes, and sludge. If the interface happens to be maintained on or within a filter element, rapid plugging may occur. In addition, this may result in microbes getting through the filter and contaminating fuel downstream of the filter. Filter plugging may also result from the breakup of upstream fungal mats. In some cases, the organisms and their byproducts have softened or destroyed the top coatings of integral fuel tanks and subsequently caused severe corrosion.

Because microbes thrive in water, a simple and effective method to prevent or retard their growth is to eliminate the water. The presence of slime, sludge, or fungus in fuel being delivered to an aircraft is a reliable indication of the presence of free water and the failure of fuel cleanup equipment.

### NOTE

**FSII contains microbial growth inhibitors which are closely monitored.**

Surfactants. The term surfactants is a contraction of surface active agents. These soap or detergent-like materials occur naturally in fuel. They may also be introduced in the refining processes by the inclusion of additives into the fuel, or they may be washed off the internal surfaces of containers previously holding other products. Surfactants are usually more soluble in water than in fuel and reduce the interfacial tension between water and fuel; this stabilizes suspended water droplets and contaminants in the fuel. Surfactants adhere to filters/separators and reduce their effectiveness. They also adhere to metal surfaces until surfactant-rich water droplets are formed. The droplets run down the sides of fuel tanks and form puddles in the bottom or in the sumps. Surfactants in large concentrations usually appear as a tan to dark brown liquid with a sudsy-like water/fuel interface.

Surfactants alone are not a great threat to aircraft. However, because of their ability to suspend water and dirt in fuel and damage filter/separators, they are one of the major contaminants in aviation fuels.

Miscellaneous Contaminants. Miscellaneous contaminants include both soluble and insoluble materials. Fuel can be contaminated by mixing different MIL-SPEC grades of



## CHAPTER 14: BASE OPERATIONS

fuel, improper mixing of additives, or by the introduction of foreign materials. When contamination occurs, engine performance can be affected. For example, there can be a reduction in flash point due to contamination with other fuels that have a lower flash point.

There can also be a reduction of FSII effectiveness due to contamination with water. These contaminants are not naturally found in fuel and are usually introduced as a result of human error.

### **BULK STORAGE FACILITIES**

**Bulk Fuel Storage.** All CAL FIRE bulk fuel storage tanks shall be constructed in accordance with applicable federal, state, and local regulations and in a manner that will prevent damage to the environment due to accidental discharge. All bulk fuel storage shall be equipped with ready-issue fuel handling systems to contain and process fuel prior to fueling aircraft.

#### **Bulk Fuel Storage System Requirements.**

1. Storage tanks with sloping bottoms, floating suction, and continuous recirculation through a filter/separator that removes both water and particulates.
2. Fuel differential pressure gauges (fuel quality monitor gauges) show filter clogging if excessive water or particulates are in the fuel. Fuel differential pressure gauges are normally installed in conjunction with filter/separators on the fuel tenders or at the direct refueling station.
3. All commercial fueling sources for both bulk fuel storage and refueling trucks shall deliver aviation fuels with tank safety hatches secured. Air base personnel shall be present to observe any drops in pressure across the filter separators.
4. All commercial sourced aviation fuel shall pass a clear and bright test prior to fuel transfer.
5. All openings and connections, including refueling nozzles, must have dust-tight caps or covers in place at all times when not in use.

#### **NOTE**

**Galvanized materials must not be used in aircraft fuel service. No copper alloys, cadmium plating, or plastic materials are permitted for main fuel piping. The use of copper or copper alloys for other components shall be minimized.**



## CHAPTER 14: BASE OPERATIONS

Bulk Storage Tank Checks. Inspect and clean storage tanks whenever tank samples show a continuous buildup of solids or when filtration elements on the downstream side of tanks show evidence of premature plugging from excessive solids. If there is no buildup or plugging, storage tanks should be inspected and cleaned as follows:

Every 6 years for coated steel tanks and tanks constructed of materials resistant to corrosion without inlet filter separator or micron filter.

Every 8 years for coated steel tanks and tanks constructed of materials resistant to corrosion with inlet filter separator or micron filter.

### RECIPT OF FUEL

#### **WARNING**

**A delivery truck with broken inspection seals shall not be offloaded and shall be rejected. Failure to identify and reject contaminated fuel can negatively affect safety of flight.**

1. Inspect the storage tank to ensure no free water is present.
2. Ensure no convective activity is within 5 nautical miles of the bulk fuel storage tanks.
3. Ensure all automatic water detection alarm systems are in place and operational.
4. Ensure no smoking, open flames, spark producing items, radios, or Portable Electronic Devices are within 50 feet of the fuel transfer.
5. To ensure proper testing, allow the fuel delivery truck to sit stationary for 5 minutes to allow water and particulates to settle.
6. Inspect the delivery truck for broken inspection seals.
7. Check results of any previous fuel quality tests performed by the commercial fuel vendor.
8. Ensure the delivered fuel is the same type and grade fuel as the storage tank.
9. Delivery truck and storage tank shall be grounded prior to commencing fuel transfer operations.



## CHAPTER 14: BASE OPERATIONS

10. A fuel sample shall pass a clear and bright inspection prior to transferring fuel.
11. Splashproof goggles and gloves approved for use with petroleum products shall be utilized for fuel handling personnel. All outerwear is required to be static-proof Nomex 3 or 100 percent cotton material.

### **BULK FUEL STORAGE SYSTEM EQUIPMENT**

Introduction. This section provides a general description and minimum requirements for equipment common to all refueling systems. These requirements apply to both new and existing equipment.

Storage Tanks. All bulk fuel storage tank procurement and maintenance is the responsibility of the Region/Unit and shall comply with NFPA 407.

Additionally, storage tanks shall adhere to:

1. Storage tanks shall be made of aluminum, stainless steel, or carbon steel, internally lined with a fuel compatible coating such as epoxy.
2. Tank construction shall be one compartment with minimal baffles. Tanks shall be equipped with a drain at the low point and installed with a slight decline towards the low point.
3. Tank top openings shall be secured by plastic lock-ties and opened only for inspections and repairs. During tank cleaning and inspections, a certified confined space entry technician shall be present.

### **CAUTION**

**The use of swing joints with zerk-grease fittings is prohibited since they can contaminate the fuel.**

Fuel Pit. CAL FIRE air bases that utilize fuel pits will normally have a sufficient through put of fuel to preclude a contamination issue from dormant fuel in the pipelines. However, bases shall circulate the fuel remaining in a fuel transfer pipeline back to the inlet side of a functional filter/separator, fuel monitor, and relaxation chamber or into a function fuel tender/truck for circulation if any of the following anomalies apply:

1. Weekly fuel nozzle sampling and testing at a fuel pit fails.
2. Fuel pit has not been utilized for more than 14 days.



## CHAPTER 14: BASE OPERATIONS

If recirculating dormant fuel in the pipelines is not feasible, discharge suspect fuel into a designated “waste fuel” bowser.

### **FUEL TENDER AND FUEL TRUCK REQUIREMENTS (Direct Aircraft Fueling)**

Contractor Fuel Trucks, Tenders, and Trailers. Fuel servicing vehicles shall be operated in compliance with all inspection and operating criteria in accordance with the U.S. Forest Service Aircraft Inspector Guide and in the California Cargo Tank Registration Program (CTRP) of the California Vehicle Code.

All tenders and trucks shall be equipped with the following:

1. Filter/separator
2. Filter/separator pressure differential gauge
3. Relaxation chamber
4. Meter
5. Approved aircraft refueling hose
6. Approved aircraft refueling nozzle
7. Bonding/ground cable
8. A minimum of two fire extinguishers, each with an ANSI rating of at least 20-B:C
9. Handheld deadman control – in the absence of a deadman control, a person must be posted at the pump switch and a second person must be posted at the nozzle.
10. Fuel/oil spill kit
11. Emergency dry break coupling installed on the hose reel end between hose and the hose reel.
12. The exhaust of all engines shall be equipped with a suitable spark arrestor. The exhaust shall be shielded to prevent fuel from coming in contact with the exhaust.



## CHAPTER 14: BASE OPERATIONS

Fuel Sample Requirements. A fuel sample shall be clear and bright tested as follows:

Fuel Source	Interval
Aircraft	Daily (before daily run-up)
All fuel trucks, tenders, and fuel trailers	Daily (before daily run-up) or after refuel
Commercial Fuel Truck	First fueling cycle
Military Fuel Source (truck or tender)	First fueling cycle
Fuel Pit	Daily at the nozzle (before daily run-up)

Fuel Sample Storage. Daily fuel samples from all aircraft and bulk fuel storage (tanks, trucks, tenders, trailers) shall be kept for 24 hours. In the event of an aircraft accident or incident, the daily fuel samples shall be confiscated by the ATBM or Helibase Manager immediately and locked until released to the investigation team.

Bulk Fuel Storage (Air Base Tank). A daily “clear and bright” sample shall be taken from the bulk storage hose daily and kept every 24 hours.

Fuel Truck, Tender, or Trailer Samples. Prior to moving, a daily “clear and bright” sample shall be taken from the fuel tender sump and kept every 24 hours.

Cold Fueling Safety and Procedures. Over-wing refueling of aircraft shall be accomplished by the pilot, mechanic, or FSVD (if trained). No other personnel are authorized to accomplish over-wing refueling.

All fueling operations shall be a minimum of 50 feet from ignition sources.

An approved and compliant Class B fire extinguisher of sufficient size (20-BC at a minimum) shall be readily available for use during all fueling operations.

During fueling operations, the aircraft shall be grounded from a designated aircraft grounding point to the fueling source prior to nozzle contact with the aircraft. The grounding wire shall be disconnected after breaking nozzle contact with the aircraft after completing fueling operations.

The fuel nozzle shall be always attended.

Fire Guard shall be posted with the fire extinguisher ready during each fueling operation and shall be in a position visible to the pilot and the fueling personnel.





## CHAPTER 14: BASE OPERATIONS

Hot Refueling Safety and Procedures. Over-wing and gravity refueling is prohibited from hot refueling. Only single-point pressure fueling and closed-circuit fueling operations are authorized.

Fixed wing aircraft are authorized to hot refuel with the engines shutdown on the fueling side of the aircraft.

Only the pilot(s) and flight engineer (as applicable) are authorized to be aboard the aircraft during hot refueling operations.

Transponder shall be in standby during hot refueling.

Radio communications shall be limited to emergency traffic only in response to the fueling operation.

All Cold Refueling Safety and Procedures apply.

Fuel for Contracted Air Tankers. Air Tankers are contracted for operating costs without fuel. Fuel is provided by an issued CAL FIRE or oil company credit card.

CAL FIRE is responsible for providing fuel to the fuel level at the time of hire.

Fuel Card Use. Use of CAL FIRE provided fuel cards is closely monitored. For the purchase of items other than fuel, the contractor shall obtain written approval from the AMU Operations Duty Chief on a case-by case basis prior to purchase.

Crews shall record the aircraft "N" number, tail number, and Incident/Order number on the credit card receipt for each fuel purchase and will submit receipts daily to CAL FIRE personnel.

When released from an incident, refill the aircraft to the annotated incident-arrival fuel level and return the fuel card to CAL FIRE Aviation Management Unit.

### Aircraft Fuel Receipt Requirements.

Table 27. Aircraft Fuel Receipt Requirements

Registration Number ("N" Number)	Radio Identification Number
Incident Order/Request Number	Pilot or Mechanic Signature
Quantity in Gallons	Price per Gallon



## CHAPTER 14: BASE OPERATIONS

The PIC shall ensure that fuel receipt contains all necessary information prior to submission to ATBM. All fuel credit card receipts shall be submitted to each the ATBM each day.

All fuel credit card receipt information shall be entered into the approved aviation electronic data base submitted to each ATBM.

Prohibition of Fuel Reimbursement. Contractors and cooperators operating helicopters and air attack aircraft will not be reimbursed for fuel costs. All fuel costs shall be calculated into the FC-107RW/FW/CC aircraft rates.

Responsible Party Environmental Stewardship. Operators and contractors are responsible for the handling and removal of fuel, oil, and retardant on airport ramps, retardant onload sites, parking areas, and landing areas when caused by operator aircraft or personnel.

Fueling Information Data. The following fueling information shall be logged in the approved aviation electronic database:

Table 28. Fuel Data Entry Requirements

Date	Vendor
Quantity in Gallons	Receipt Number
Radio Identification Number	Price per Gallon
Incident Number	Total Cost
Request Number	Comments (as applicable)

Retardant Mixing. Procedures for mixing retardant depend upon the type of mixing system installed at the Air Bases or Reload Base and the type of retardant being used.

The Base Operating Guide shall outline specific procedures for using and maintaining the installed mixing equipment. Procedures for retardant testing and quality control are in accordance with the [Wildland Fire Chemicals Handbook](#).

Retardant Storage and Delivery. Retardant is normally mixed and stored in advance of fire activity. The retardant is then pumped to the loading pits. Once mixed, retardant must be utilized or recirculated to maintain consistency. The Base Operating Guide shall include procedures for operating and maintaining the retardant storage and delivery system.

Retardant Availability. The Air Tanker Base Manager is responsible for maintaining sufficient mixed and dry retardant readily available to meet peak operational demand.



## CHAPTER 14: BASE OPERATIONS

The following considerations should be factored into maintaining sufficient retardant availability:

Air Tanker type(s)	Mixing system type
Wet storage capacity	Dry storage capacity
Source of supply lead time	Number of reloading pits

Retardant Loading Limitations. Simultaneous loading of fuel and retardant on aircraft equipped with the Modular Airborne Firefighting System (MAFFS), and single engine air tankers (SEAT) is prohibited.

Air Tanker Hot Loading Procedures. Ground crews unfamiliar with air tanker loading procedures shall require a full shutdown and receive a loading procedure briefing prior to the first retardant loading evolution.

Air Tanker Retardant Wash Down. At a minimum, air tankers shall have all retardant rinsed off the exterior of the aircraft at the end of each day.

Air Tanker Offloading. Air Tanker Bases shall have the ability and documented procedures to offload, store, and reload retardant. Dissimilar retardant types shall not be stored together unless compatibility is assured by the manufacturer.



## CHAPTER 15: AIR BASE ADMINISTRATION

On-Boarding. Pilots and crews temporarily assigned at a CAL FIRE base for any length of time shall complete an ***Initial Base Safety Briefing*** (see APPENDIX C) with the ATBM or designee.

Etiquette. CAL FIRE requires that pilots, crew, and mechanics dress in a professional manner when on duty.

Breaks. The duty day does not include scheduled breaks. It is the pilots and flight crew's responsibility to take breaks when there is an opportunity. Pilots and flight crews shall remain at the base for the entire duty period.

Harassment Policy. In compliance with CAL FIRE policy, any form of harassment is unacceptable and will not be tolerated. Harassment is detrimental to morale, performance, and the safe conduct of business. Certain forms of harassment may constitute an act of discrimination, prohibited by Section 703 of Title VII of the Civil Rights Act of 1964, as amended. Any report of harassment will be investigated by CAL FIRE Aviation Management Unit and EEO. In the interest of safety, an operator will be suspended until the investigation is concluded and a decision to reinstate has been reached by CAL FIRE.

Subsistence. Pilots, flight crews, and mechanics are responsible for their meals.

Overnight Accommodations. Contract flight crews are responsible for securing lodging. If time permits, the Air Base Manager may assist in securing transportation and lodging, however the reservation of, and subsequent payment for lodging and transportation is the responsibility of the contract pilots and mechanics.

CAL FIRE Air Base facilities are not equipped to provide for overnight accommodations.

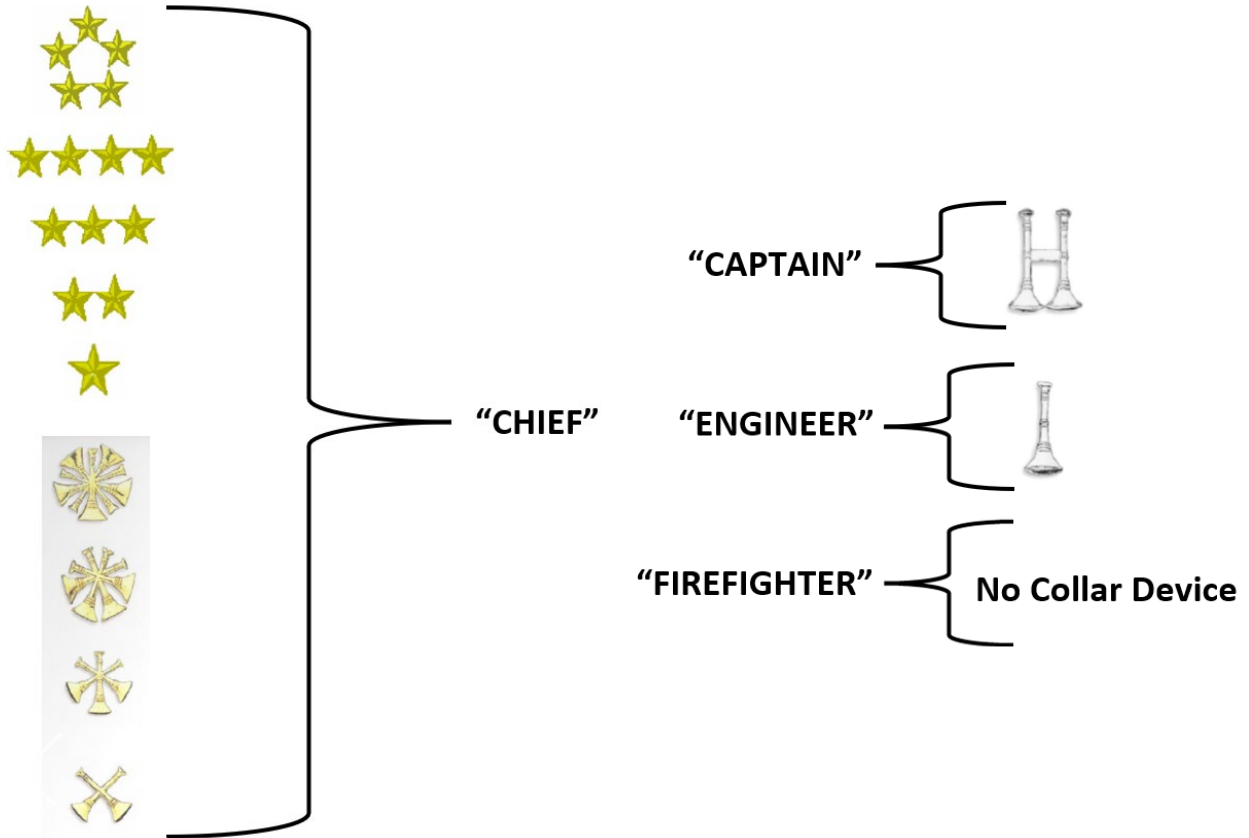
Transportation. Contractors and cooperators shall arrange their own ground transportation, however if this is not possible due to circumstances outside the contractors' control, base personnel will assist in arranging it.



# CHAPTER 15: AIR BASE ADMINISTRATION

CAL FIRE Uniformed Personnel. It is required that all CAL FIRE personnel are addressed by their proper title.

Collar insignia indicates the following ranks:





## CHAPTER 15: AIR BASE ADMINISTRATION

Pilot and Flight Crew Late Arrival. Pilots and flight crews shall immediately notify the ATBM or Helibase Manager if they will be late for duty.

Fire Dispatch. Flight crews shall be available for immediate dispatch within 15 minutes while on duty.

If the pilot cannot respond within 15 minutes, a notification shall be made to the ATBM or Helibase Manager and the CAL FIRE AMU Operations Duty Officer regarding the delay.

Regardless of urgency, pilots shall comply with aircraft checklists and promulgated directives.

Aircraft Time Keeping. ATBMs are responsible for tracking and recording flight time in the designated electronic system.

Flight Time. Flight time begins when the aircraft begins taxiing and pauses when the aircraft stops for reload and ends when the aircraft stops for shutdown.

Crew and Passenger Manifest. For all flights the Helibase Manager or ATBM is responsible to receive and retain the completed passenger manifest.

For flights not operating from a CAL FIRE Base the pilot(s) will ensure all passenger information is relayed to the Helibase Manager, ATBM, or ECC, as directed.

Airport Fees. ATBMs are responsible for ensuring airport use fees such as landing and parking fees are processed monthly. All airport fees shall be entered in the approved aviation electronic database.

Contracts. Helibase and ATBMs shall be familiar with applicable contracts.

Table 29. Examples of Helibase/Air Base Contracts.

Aviation Service Contract	Retardant
Land Use Agreements	Call When Need Agreements
Exclusive Use Contracts	Mutual Aid Agreements

Air Base Equipment Rental. The Helibase Managers and ATBMs can supplement ground support equipment in accordance with the [Hired Equipment Program Handbook](#).



## CHAPTER 15: AIR BASE ADMINISTRATION

Examples of Hired Equipment.

Crash Rescue Engine (ARFF)	Portable Generators
Lighting Equipment	Forklift
Scissor Lifts	Trailers
Pumps	Dumpsters
Portable Coolers	Tents

Air Base Tower/Air Base Radio Operator Duty Station. Air bases shall have a climate and noise-controlled tower or Air Base Radio Operator (ABRO) station from which coordination between aircraft, ramp personnel, and outside agencies can be conducted. The facility shall be of adequate size for the number of personnel assigned and provide a view the ramp area and if possible, the runway and taxiways.

The facility shall have a telephone, high speed internet, CAL FIRE microwave intercom, VHF-AM, VHF-FM, and AIR GUARD radio communication capability. Air bases shall acquire and maintain computers to process FC-106 (Dispatch Forms), monitor Aircraft Flight Following (AFF), and to perform electronic aircraft data entries.

Temporary Air Traffic Control Tower. During periods of elevated flight activity, a temporary air traffic control tower should be ordered at the discretion of the Air Tanker Base Manager.

Internet Accessible. Air Bases may have access to the internet, via WiFi and/or direct connection, in a speed and bandwidth high enough to allow multiple users to function on the internet simultaneously, without significant delays.

Ramps, Pits, Ground Markings. Air base movement areas and ramps shall be designed and marked in accordance with the FAA AC-150 (series) for ground operations utilizing pull-through reload and parking design.

When unable to meet FAA AC-150 (series) taxi obstacle clearance requirements, air bases shall provide an alternate means of compliance such as the use of wing-walkers.

Electrical Power Sources. Air bases may provide adequate electrical power to meet facilities, ground support equipment, and operational requirements. In the case of a loss of power, battery-powered radios, gas pumps, and/or generators shall be available to maintain operational capabilities.

Electrical outlets shall be available on the ramp and aircraft parking areas for ancillary equipment (i.e., cooling carts, vacuums, etc.). Some helibases may not have electrical outlet infrastructure. It is essential that contractors procure and use their own generator for ground support needs to maintain aircraft serviceability.



## CHAPTER 15: AIR BASE ADMINISTRATION

Ramp Fire Extinguishers. The purpose of ramp portable fire extinguishers is to allow safe egress of the flight crew from the aircraft and personnel safety.

Fire extinguishers shall be in retardant loading pits and fueling areas. Helibase and ATBMs will ensure ground personnel are trained on the use of fire extinguishers and required PPE annually.





## CHAPTER 16: AIRCRAFT SUSTAINMENT

Overview. Aircraft sustainment and safety of flight is of utmost importance in conducting safe fire suppression operations. Aircraft maintenance that affects safety of flight is tightly controlled by the AMU Maintenance Duty Chief.

Foreign Object Debris (FOD) Prevention. All aircraft movement areas, helipads, and surrounding areas shall be inspected each day for FOD. Chemical bottles, rags, tools, and ground support equipment shall be verified by another person as stowed prior to aircraft startup or movement. Helitack bases are responsible for ensuring a FOD prevention schedule is practiced.

Personal Tools. All personal tools (i.e., multitools, knives, etc.) shall be etched with the employee's initials. If a personal tool is used on an aircraft, the tool must be verified by another person as stowed prior to aircraft startup or movement.

Lost Tool, Items, or Equipment. In the event all tools, items, or equipment is not accounted for, the aircraft shall be placed on a 30-minute delay until the lost item is found. If the item cannot be found, the AMU Maintenance Officer shall be notified, and the aircraft is grounded until a complete pre-flight inspection is completed.

If notified that a tool, item, or piece of equipment is not accounted for in flight, the flight crew shall land as soon as practicable and notify the Aerial Supervisor, ECC, or Helibase/Air Tanker base as applicable.

Routine Maintenance. Only a mechanic may perform 50-Hour, 100-Hour, or progressive maintenance inspections.

Airworthiness Responsibilities. Each contractor and cooperator is responsible for ensuring aircraft, ground support equipment, and ALSE is inspected and maintained in accordance with applicable manufacturer and/or industry requirements. The AMU Maintenance Duty Chief has the latitude to increase maintenance interval frequencies, adding special inspections, and incorporate maintenance procedures. All aircraft inspections, discrepancies, corrective actions, and work packages shall be documented and archived by the contractor or cooperator.

CWN/EU Maintenance Release Authority. A maintenance release is required for any safety of flight discrepancy, grounding discrepancy, and/or inoperable equipment on each aircraft model minimum equipment list. Contractor personnel do not have maintenance release authority while the aircraft is under a CAL FIRE contract/agreement.

Contract County Maintenance Release Authority. All contract counties will follow their airworthiness processes for releasing an aircraft and shall advise the AMU Maintenance Chief when an aircraft has been released for operations when operating on a CAL FIRE or Unified Command Incident.



## CHAPTER 16: AIRCRAFT SUSTAINMENT

CWN/EU Grounding Discrepancies. An aircraft which experienced a grounding discrepancy shall immediately be taken out of service. Personnel below shall adhere to the following:

<b>Pilot Responsibilities</b>
Report aircraft out of service to ATBM or Helibase Manager
Document grounding discrepancy on maintenance records
<b>Helibase or ATBM Responsibilities</b>
Notify ECC, GACC, or AOBD of aircraft status and estimated in-service date/time
<b>AMU Maintenance Duty Chief Responsibilities</b>
Update Aircraft Status Dashboard and notify the AMU Operations Duty Chief
When aircraft returns to service, update Aircraft Status Dashboard and notify the AMU Operations Duty Chief
<b>AMU Operations Duty Chief Responsibilities</b>
Notify TAO of EU aircraft status and estimated in-service date/time
Identify aircraft replacement/movements with TAO, as applicable
Execute aircraft movement plan, as applicable

Return to Service. An aircraft that experienced a grounding discrepancy may return to service when all applicable corrective action(s) are completed and documented, the aircraft is maintenance released by the maintenance release authority for the functional check flight (FCF), if required. If a dedicated FCF is required, the aircraft may return to service after the FCF and documentation is completed.

When contacting the AMU Maintenance Duty Chief, have the following information available at a minimum:

- a. Nature of the Discrepancy
- b. Corrective Action and reference
- c. Quality control inspection (if applicable)
- d. Any other pertinent information

The AMU Maintenance Duty Chief will require an electronic copy of the documentation.



## CHAPTER 16: AIRCRAFT SUSTAINMENT

Pre-Flight and Post-Flight Inspections. There are two different types of pre-flight and post-flight inspections. The mechanics are responsible for completing daily aircraft inspections prior to startup in accordance with the applicable aircraft maintenance manuals.

Pilots shall conduct preflight, thru-flight, and post-flight inspections in accordance the aircraft operator's manual. Prior to any flight, the pilot shall ensure all aircraft inspections are completed and all maintenance documentation is updated for the day prior to any flight.

Personal Protective Equipment. Pilots shall wear a flight helmet or cranial protection when greater than six feet above the ground while inspecting the aircraft.

Aircraft Modifications. All aircraft modifications shall be inspected and approved by CAL FIRE Aviation Management Unit.

Discrepancy Documentation. All maintenance discrepancies shall be documented. Verbal notification of discrepancies to mechanics and/or the AMU Maintenance Duty Chief in lieu of documentation is not authorized. It is crucial that each discrepancy contains as much detail as possible to aid troubleshooting efforts.

Maintenance Assistance. Pilots may assist mechanics in performing maintenance however, these duties are limited to simple tasks such as, operating aircraft systems, tool handling, movement of check stands, and opening/closing panels.

All time assisting maintenance shall count toward the pilot duty day.

Maintenance Records. A copy (not the original) of the current maintenance record required by 14 CFR Part 91 shall be kept with the aircraft. A copy of the current maintenance record required by 14 CFR 91.417 shall be kept at the Home Base or maintenance facility. Additionally, aircraft maintenance record entries and aircraft flight logs shall be transmitted to the operator's home base (location the certificate is held) every 12-flight hours or seven (7) days – whichever occurs first.

Ground Runs and Operational Checks. Following maintenance corrective action, ground runs and operational checks may be required in accordance with the work package. Qualified mechanics and pilots are authorized to perform ground runs and operational checks. All ground and operational checks are conducted at the contractor's expense.

Flight Verification Check. Following maintenance corrective action and ground runs/operational checks are completed, a Flight Verification Check may be performed in conjunction with a training or operational flight. This check involves verifying aircraft and/or system satisfactory performance during the normal operation of the aircraft without requiring the manipulation of systems usually encountered on a dedicated Functional Check Flight (FCF).



## CHAPTER 16: AIRCRAFT SUSTAINMENT

Functional Check Flight (FCF). A functional check flight is a dedicated verification flight that requires the manipulation of systems and/or unique flight profiles to ensure airworthiness. FCFs are typically performed before and after major maintenance intervals. FCFs are one of the most hazardous flight regimes encountered on a day-today basis. All FCFs shall utilize the minimum flight crew required to conduct the operation. The only exception is for pilot specific FCF training or required mechanics to perform the operation. All FCFs are conducted at the contractor's expense.

FCFs shall be completed over areas with the least possible exposure to personnel, equipment, vehicles, and property – preferably near an airport with crash response.

FCFs shall be conducted between sunrise and sunset in VMC. The AMU Operations Duty Chief may waive this requirement if the flight can be conducted safely. Ground checks and FCF items in a hover may be conducted anytime.

Blade or Propeller Strikes. In the event of a propeller, main, or tail rotor blade striking any object, the aircraft shall affect the landing prescribed in the aircraft operator's manual, shut down, and inspected by a qualified mechanic. The aircraft is considered grounded until maintenance and operational release is received. A SAFECOM report under the appropriate CAL FIRE Unit shall be filed within 24 hours.

Wire Strikes. In the event of a wire strike, the aircraft shall be flown to the nearest safe landing site, immediately grounded, and inspected by a qualified mechanic. The aircraft is considered grounded until maintenance and operational release is received. A SAFECOM report under the appropriate CAL FIRE Unit shall be filed within 24 hours.

Chip Detector Warning/Caution. Any removal of a chip detector is considered a maintenance function and shall be accomplished by mechanic.

If the aircraft is at a remote landing zone and mechanic access is unfeasible, a trained pilot may inspect the chip detector in lieu of a qualified mechanic. If only a small particles or "fuzz" is discovered, the pilot shall remove and retain the material for inspection and return to service after receiving maintenance and operational release.

If the chip detector warning/caution illuminates again during the same flight, the mission shall be cancelled, and the aircraft is grounded until an inspection is completed and ground checks are accomplished. If an FCF is required in accordance with the aircraft work packages/maintenance manual, a maintenance release to conduct an FCF is required. Upon successful completion of the FCF, a maintenance release and operational release is required prior to becoming available.



## CHAPTER 17: PAYMENT RECONCILIATION

Overview. CAL FIRE attempts to reconcile all outstanding contract payments as quickly as possible. It is the contractor's responsibility to remain solvent and operable during fire season.

Prompt Payment Clause SCM 7.20: Payment will be made in accordance with, and within the time specified in, Government Code Chapter 4.5, commencing with Section 927. In the event of an emergency, as defined in section 927.11, late payment penalties may not apply. Specific to CAL FIRE, if an invoice from a business under contract with CAL FIRE becomes subject to late payment penalties during the annually declared fire season, then the required payment approval date shall extend 30 calendar days beyond the initial 45-day period, except in the case of a contract with a certified small business, a certified Disabled Veteran Business Enterprise, a non-profit organization, or a non-profit public benefit corporation.

Billed Flight Hours. Any aircraft reposition accomplished at the request of CAL FIRE shall be paid 1/10<sup>th</sup> of an hour per movement. A cancelled dispatch will also be paid at 1/10<sup>th</sup> of an hour if the engines were operating.

Helicopters. At the conclusion of each day, contractors and cooperators shall coordinate with the ATBM or Helibase Manager to complete and sign the CAL FIRE-62 Form. This form is used to capture recorded flight times, extended standby, availability, and mileage.

The CAL FIRE 63 – Daily Shift Ticket is a self-invoicing payment document which is the final invoice submitted to the incident and/or unit for payment. It is essential that contractors and cooperators ensure this form is accurate.

Fuel Servicing Vehicle Requirements & Payment (Helicopters Only). A fuel servicing vehicle is required for all helicopter support. CAL FIRE will not pay mileage to and from lodging.

When hired, mileage will be paid to and from the assigned work location, beginning at the contractor's principal base of operation or from the location of the vehicle at the time of order, whichever is closer. Mileage reimbursement is calculated by the shortest applicable route based on Department of Transportation regulations for hazardous materials.

Mileage paid will be at the annually established USFS Fuel Truck Rate/mile.

Fixed-Wing CWN/EU Aircraft. The CAL FIRE Air Operations Worksheet (Figure 6) is used to capture daily flight hours and associated costs due to the contractor.

Pilots or a company representative shall sign the CAL FIRE Air Operations Worksheet to confirm the data entered is accurate.



# CHAPTER 17: PAYMENT RECONCILIATION

Figure 6. CAL FIRE Air Operations Worksheet

CAL FIRE AIR OPERATIONS WORKSHEET															
DATE:		T-:	A/C #:	CONTRACTOR:				A/C MAKE:							
A/C OPS FROM:		AIRCRAFT'S ADMIN BASE:		CONTRACT #:				A/C MODEL:							
PHONE #:		PHONE #:		BID ITEM #:				AVAIL RATE:							
FAX #:		FAX #:		PILOT:				FLIGHT RATE:							
				CO-PILOT:				POST USE RATE:							
				MECHANIC:				POST USE START:							
INCIDENT INFORMATION				FIRE CHEMICAL				BASE ID		LANDING COST	FLIGHT TIMES				TOTAL COST
INCIDENT NAME	RESOURCE ORD #	FIRE CHG #	UNIT	QTY GAL	CHEM TYPE	\$ PER UNIT	COST OF CHEMICAL	FROM	TO		START	STOP	ELAP MIN	ELAP DEC	
TOTALS:															
DAILY AVAILABILITY					NOTES: explain Misc Costs, Unavailability, Maintenance, etc.					COST SUMMARY					
START	STOP	TOT HRS	EXT. STANDBY	START	STOP						FLIGHT TIME:				
											CHEMICAL:				
NON-AVAILABILITY					EXT. STANDBY:										
			HRS ELAP:		LANDING FEES:										
			# of CREW:		MISC COSTS:										
			\$ PER HR:			TOTAL FIRE COST	#VALUE!								
TOTAL HRS AVAIL:					TOT \$:										
FLIGHT TIME LAST SIX DAYS					NAUTICAL MILES: @ = ETE:										
DAY OFF:		LAST D/O:			GOVERNMENT REPRESENTATIVE :					DATE :					
					TANKER REPRESENTATIVE :					DATE :					
					TOTAL					0.00					



## CHAPTER 18: QUALIFICATIONS

Overview. Qualification requirements are based on hiring standards for contract counties and cooperators. [FAA Advisory Circular 00-1.01 \(series\)](#) allows federal, state, and local government to determine qualification requirements for their flight crews. Contractors shall meet the minimum qualifications outlined in this chapter for hiring consideration.

### **HELICOPTER PILOTS**

The following are the basic minimum carding requirements for carding:

#### PIC Hours

Total PIC Hours .....	1,500
Helicopter, Preceding 12 months.....	100 <sup>Note 1</sup>
Weight Class .....	100
Make and Model .....	50 <sup>Note 2</sup>
Make, Model, Series, Preceding 12 Months .....	10
Turbine PIC Hours.....	100

Note 1: The contractor may request a pilot flight hour waiver. The contractor should contact the AMU Helicopter Program Chief Pilot for waiver consideration.

Note 2: Flight hour requirements may be reduced by 50 percent if the contractor submits evidence of satisfactory completion of a manufacturer's approved pilot ground and flight procedures training in the applicable make and model or FS/OAS-accepted equivalent training. Accepted equivalency is applicable to Type II Helicopters Only).

#### ICS Typing Standards.

Components	Type 1	Type 2	Type 3
Allowable Payload (15°C at sea level)	5,000 lbs	2,500 lbs	1,200 lbs
Passenger Seats	15 or more	9-14	4-8
Fire Suppression Capability (gallons)	700	300	100
Maximum Gross Takeoff & Landing	12,501 or greater	6,000 – 12,500	Up to 6,000
Helitanker	<ul style="list-style-type: none"> <li>• Fixed Tank</li> <li>• 1,100 gallons or greater</li> </ul>		





## CHAPTER 18: QUALIFICATIONS

Additional Mission Requirements. All additional mission requirements are based on PIC flight hours.

Mountain Flying Total .....	200
Vertical Reference (VTR) Total Experience.....	10 Note 1
Annual VTR Recurrency Training .....	2 Note 1
Helicopter Night (unaided) Total.....	50

Note 1: Mandatory for Type I, II & III Exclusive Use operators. Mandatory for Type I & II CWN operators.

### NVG Prerequisite Requirements.

Helicopter NVG Flight Training.....	8
Helicopter NVG Ground School.....	8

### NVG Fire Suppression (Low-Level Operations) – Exclusive Use Only Note 2.

Helicopter NVG Total.....	25
Helicopter PIC NVG, Preceding 12 months (any make/model).....	25
Helicopter PIC NVG Specific Make/Model, Preceding 12 months.....	10

Note 2: NVG Fire Suppression – Low Level is not offered for Call-When-Needed agreements.

Note 3: 50 percent of hours may be conducted in an NVG compatible, FAA-certified simulator or fixed training device to include IIMC recovery procedures.

### NVG RECON

Helicopter NVG Total.....	15
Helicopter PIC NVG, Preceding 12 months (any make/model).....	15
Helicopter PIC NVG Specific Make/Model, Preceding 12 months.....	10

NVG Ground Training Requirements. NVG Ground Training (14 CFR Part 61) includes the following:

- Crew Resource Management
- Aero Medical Factors
- Night Vision Goggle Operations
- Aircraft Lighting Systems
- NVG Night Terrain Interpretation
- Agency Specific Procedures

NVG Flight Training Requirements. NVG flight training for carding shall include:

- Pilot Basic Flight Maneuvers
- Pilot Emergency Procedures
- Specific Mission Profiles
- Night Procedures Check





## CHAPTER 18: QUALIFICATIONS

- Inadvertent Instrument Meteorological Conditions recovery

NVG Recurrency Training Requirements. NVG recurrency to maintain carding shall be accomplished in accordance with 14 CFR 61.57.

For current NVG and equipment standards, reference the FAA website. Select the 2004 Flight Standards Handbook for Air Transportation (HBAT).

It is recommended that Helicopter Pilot NVG training standards conform to the FAA Commercial Pilot Practical Test Standards for Rotorcraft FAA-S-8081-16B.

NVG Maintenance Requirements. All NVGs shall be maintained on the manufacturer's recurrent maintenance schedule.

All NVGs used shall meet the RTCA technical standards contained in DO-275 and FAA Technical Standards Order TSO-C164.

PIC Mountain Flight Hours. All mountain flight hours are defined as helicopter operations in mountainous terrain identified in 14 CFR Part 95 Subpart B – Designated Mountainous Area.

Experience operating outside the United States may be considered mountainous terrain, providing it is conducted in areas above 2000 feet MSL containing long slopes, deep valleys, and high ridges to include off-airport takeoffs and landings and hover operations.

Helicopter NVG Reconnaissance and Helicopter Coordinator (HLCO). All NVG HLCO operators shall be carded for NVG operations, low-level, and for carriage of passenger, cargo, and crew transport.

Second-in-Command (SIC). All aircraft requiring an SIC in accordance with the operator's manual require the following:

FAA Commercial, Rotorcraft Certificate	
SIC Total.....	150 hrs
SIC Make/Model, Preceding 12 months.....	10 hrs

If applicable for NVG missions:

SIC NVG Total.....	10 hrs
SIC NVG, Preceding 12 months.....	5 hrs

### AIR TACTICAL PILOT

PIC Flight Hours.....	1500 hrs
Category (Airplane).....	1200 hrs
Category and Class (multi-engine) to be flown .....	200 hrs
Multi-Engine and Single-Engine Turbine.....	100 hrs



## CHAPTER 18: QUALIFICATIONS

Instrument (50 hrs actual) .....	75 hrs
Cross Country .....	500 hrs
Mountainous Terrain (mountain and low-level) .....	200 hrs
Total time in make, model, and series of aircraft to be used.....	25 hrs
Total time in class, preceding 12 months.....	100 hrs
Night Currency (preceding 90 days).....	three takeoffs and landings to a full-stop

### **AIRTANKER PILOT-IN-COMMAND (AKP)**

- Commercial Pilot Airplane Certificate with Instrument rating or an Airline Transport Pilot (ATP) with appropriate Category Class and Unrestricted Type Rating for the aircraft to be flown.
- Valid Class II (or Class I) FAA Medical Certificate.
- PICs shall meet requirements of 14 CFR Part 61.58(a) instrument currency requirements Part 61.57(c), (d), or (e) proficiency check, or Part 121 equivalency. Part 121 equivalency may be accomplished in FAR part 142 approved simulators as per 61.57 (a)(3), (b)(2), (c)(1) and (d)(1)(ii), and as per 61.58 (e).
- PICs shall meet 14 CFR Part 137.53 congested area requirements. (Pilots not meeting this requirement may be issued an AKP card provided the limitation is noted on the card by the Airtanker Pilot Inspector and a qualified AKI is assigned to every mission).
- At the CAL FIRE's discretion, pilots shall pass a competency and mission proficiency check in make and model aircraft, conducted over typical terrain.
- Proof of completion of the USFS Airtanker Pilot Training Program annually and the National Aerial Firefighting Academy (NAFA) course every 3 years.
- Proof of completion of annual simulator training in standard operating procedures, Crew Resource Management (CRM), Controlled Flight into Terrain (CFIT) prevention, instrument currency, and emergency procedures. Attendance at a professional simulator training center is required.

**AKP Experience.** Pilots shall have accumulated the minimum flight hours listed below. Flight hours shall be determined from a certified pilot log. Further verification of flight hours may be required at the discretion of the CAL FIRE inspector.

Pilot (Total Time) .....	1500 hrs
Pilot-In-Command (Airplane) .....	1200 hrs



## CHAPTER 18: QUALIFICATIONS

### PIC Breakdown

An unrestricted type rating in the make and model to be flown. Time shall be accumulated after the issuance of the type rating	25 hours Note 1
Category (airplane) and class (multi-engine) to be flown	200 hours
Multi-engine aircraft over 12,500 pounds, if applicable (except for time credit note) time shall be accumulated after receiving type rating)	100 hours Note 2
During preceding 12 months (Airplanes)	100 hours Note 3
Instrument (50 hrs Actual)	75 hours
Night flying to include at least 3 takeoffs and landings to full stop during the 90 days preceding annual pilot approval in category and class over 12,500 lbs	100 hours
Typical terrain (mountain and low-level)	200 hours

### 60 Days Prior to Pilot Carding

In make and model, to include 5 takeoffs and landings performed from the left seat	5 hours Note 4
Complete mission training flights by demonstrating and documenting proficiency in dropping a minimum of two full loads of water to a contractor designated mission training pilot	2 hours
Demonstrate dropping one full load of water in typical terrain under the observation of an Airtanker Pilot Inspector in the make and model of airtanker to be flown	As Required

Note 1: The 25 hours of PIC required shall have been within the past 5 years with an Unrestricted Type rating in make and model to be flown. Time shall be accumulated after the issuance of the type rating. The time in the make and model to be flown may be reduced to 10 hours provided the pilot holds an Initial Attack (AKI) rating and completes training in maneuvers simulating airtanker operations.

Note 2: Pilots who have flown as SIC in multi-engine airtanker operations may count 50 percent of that time toward the 100 hours PIC requirement (left seat) to a maximum of 50 hours; or

Note 3: Or performed as Airtanker Pilot during preceding 12 months.

Note 4: Initial Attack Training Pilots (AKTP) may perform the make and model experience requirements from either the (left) and/or (right) seat. Dropping loads (water) for the Airtanker Pilot Inspector shall be demonstrated from both the (left) and (right) seat, with a minimum of 2 full loads total dropped.



# CHAPTER 18: QUALIFICATIONS

## AIRTANKER SECOND-IN-COMMAND (AKC)

Commercial Pilot Airplane Certificate with Instrument and Multi-Engine rating  
Valid Class II (or Class I) FAA Medical Certificate.

AKC shall meet requirements of 14 CFR Part 61.55 and 61.56.

Proof of completion of the USFS Airtanker Pilot Training Program annually and/or the NAFA course.

Pilot-In-Command (Airplanes) .....	800 hrs
Pilot hours in the Preceding 12 months .....	100 hrs <small>Note 1</small>

Note 1: Or performed as an AKC in the past 12 months; or received a Type rating in the make and model to be flown in the past 12 months, or pilots previously designated as AKC but who have not acted in that capacity during previous 36 months, shall demonstrate their ability in flight aboard the aircraft to a designated Airtanker Pilot Inspector during the annual pilot approval process.

## FLIGHT ENGINEER (FE)

Shall have a current FAA Flight Engineer (FE) Certificate with appropriate rating issued under 14 CFR Part 63 and meet currency requirements of 14 CFR Part 91.529 (b) with a minimum of 5 hours within 60 days prior to carding.

Valid Class II FAA Medical Certificate

Current authorization from Contractor

## AIR RESCUE CREW CERTIFICATION REQUIREMENTS

In order to be certified to provide hoist rescue services for CAL FIRE, operators must meet the minimum equipment and crew requirements and standards established in the [CAL OES FIRESCOPE Hoist Rescue Guidelines \(ICS-801\)](#). Please utilize the ICS-801 manual as a reference for aircraft and crew certification.

Operators must provide documentation of the following requirements and proficiency prior to scheduled pilot and crew carding. CAL FIRE Air Rescue Crew certification must be renewed annually, with crewmember evaluations by a CAL FIRE inspector required at a minimum of once every three years.

Additional CAL FIRE Requirements. In addition to the requirements outlined in ICS-801, Section IV, CAL FIRE requires the following –

Hoist Rescue Ground School (Initial): 70 hours (can include 10 hours of live flight training listed below).

Hoist Rescue Flight Training (Initial): 10 hours



## CHAPTER 18: QUALIFICATIONS

Hoist Rescue Ground School (Initial): 40 hours (can include 5 hours of live flight training)

Hoist Rescue Flight Training (Initial): 5 hours

Rescue Helicopter Initial Training and Proficiency. Upon request, operators with Air Rescue Crew personnel (Pilot, Crew Chief and Rescuer) participating in CAL FIRE air rescue operations shall be required to provide documentation that hoist skills proficiency was evaluated by their designated company evaluator a minimum of two (2) times annually, with a maximum time between proficiency verifications of eight (8) months.

Additionally, Air Rescue Crew personnel are required to document a minimum of six (6) hours of Air Rescue training in the prior six (6) month period to maintain proficiency. Training will consist of a minimum of four (4) hours of live evolutions using all rescue devices carried and a minimum of two (2) hours of classroom, ground school, and static hoisting.

Rescue Helicopter Recurrent Training. Annual recertification for all crewmembers: 40 hours of lecture and flight operations documented. Annual proficiency hours may count towards this time.

Mechanic Qualifications. The mechanic shall submit to the ATBM or Helibase Manager a valid FAA Airframe and Powerplant license or foreign equivalent. Each mechanic shall have been licensed for a period of at least 24 months.

Over the previous 24 months, each mechanic shall have been performing aircraft maintenance for a period no less than 18 months. Within the 18 months, 12 months shall be in maintaining helicopters, if performing work on helicopters.

Within the previous three (3) years, the mechanic shall have maintained the same make and model helicopter for at least one full fire season.

Each mechanic shall have maintained a helicopter away from the operator's base of operations for three (3) months while under minimal supervision.

Each mechanic shall have satisfactorily completed a manufacturer's maintenance course or an equivalent U.S. Forest Service or DOI-approved training program for the make and model of helicopter or show evidence the mechanic has accumulated at least 12 months of experience on a helicopter of the same make and model.

Pilots may serve the function of a mechanic if the pilot meets the standards above. Pilot duty limitations apply while operating as a mechanic.

If approved by the contractor operations specifications, and in accordance with 14 CFR 43.3(h), 43.5 and 43.7, pilots may perform preventive maintenance on the aircraft.



## CHAPTER 18: QUALIFICATIONS

When pilots are performing the duties of a mechanic more than two (2) hours, each hour after will count as flight hours in the duty period.



## CHAPTER 19: EVALUATIONS, RESOLUTIONS, & APPEALS

### **EVALUATIONS**

Overview. A CAL FIRE-230 Performance Evaluation shall be completed by the ATBM or Helibase Manager for all vendors and operators at the end of each operational period to document exemplary, standard, or substandard performance. It is paramount that each evaluation is objective.

Exemplary and substandard performance shall be discussed with the operator no later than the end of the shift. This feedback mechanism is critical in providing constructive feedback to operators.

These discussions should be documented to include date, time, personnel, and details of the corrective actions.


Base Managers. ATBM and Helibase Managers shall submit all performance evaluations to the [CAL FIRE Contract Aerial Resources Dashboard](#).

At the time the operator is released from the incident, the ATBM or Helibase Manager shall provide operators with copies of all performance evaluations.



# CHAPTER 19: EVALUATIONS, RESOLUTIONS, & APPEALS

Figure 7. CAL FIRE-230 Supplier Performance Evaluation

 STATE OF CALIFORNIA, NATURAL RESOURCES AGENCY DEPARTMENT OF FORESTRY AND FIRE PROTECTION <b>SUPPLIER PERFORMANCE EVALUATION</b> CAL FIRE-230 (REV. 01/20)		Page 1 of 2		
1. INCIDENT NAME	2. ORDER NUMBER	3. REQUEST NUMBER	4. START – END DATE -	
5. SHIFT/OPERATIONAL PERIOD	6. OPERATOR	7. ASSIGNMENT OR LOCATION		
<b>SUPPLIER INFORMATION</b>				
8. NAME	9. ADDRESS	10. PHONE AND CONTACT		
11. <input type="checkbox"/> SERVICE <input type="checkbox"/> COMMODITY <input type="checkbox"/> RENTAL EQUIPMENT		12. AGREEMENT #		
13. BRIEF DESCRIPTION OF SERVICES/COMMODITY/EQUIPMENT ORDERED:				
<b>14. RATING FACTORS</b>			<b>YES</b>	<b>NO</b>
A) GAVE AND MET ACCEPTABLE ETA/COMMITMENT.			<input type="checkbox"/>	<input type="checkbox"/>
B) ARRIVED PREPARED, EQUIPPED, AND READY TO WORK.			<input type="checkbox"/>	<input type="checkbox"/>
C) MET WITH ASSIGNED SUPERVISOR FOR DIRECTION.			<input type="checkbox"/>	<input type="checkbox"/>
D) MET PERFORMANCE EXPECTATIONS.			<input type="checkbox"/>	<input type="checkbox"/>
E) EQUIPMENT IN SAFE WORKING CONDITION.			<input type="checkbox"/>	<input type="checkbox"/>
F) PERSONNEL WERE SKILLED AND OPERATED SAFELY.			<input type="checkbox"/>	<input type="checkbox"/>
G) PERSONNEL'S LEVEL OF COOPERATION WAS ACCEPTABLE.			<input type="checkbox"/>	<input type="checkbox"/>
H) OTHER:			<input type="checkbox"/>	<input type="checkbox"/>
I) <b>RECOMMENDATION FOR REHIRE/REUSE</b>			<input type="checkbox"/>	<input type="checkbox"/> *
J) OVERALL RATING OF PERFORMANCE: <input type="checkbox"/> POOR** <input type="checkbox"/> AVERAGE <input type="checkbox"/> GOOD <input type="checkbox"/> EXCEPTIONAL				
* RECOMMENDATION OF NO REHIRE/REUSE REQUIRES EXPLANATION OR COMMENT.				
**RATING OF POOR REQUIRES EXPLANATION OR COMMENT.				
15. COMMENTS:				
SIGNATURE BELOW DOES NOT CONSTITUTE AGREEMENT WITH RATING, BUT THAT RATING WAS DISCUSSED WITH SUPPLIER OR REPRESENTATIVE.				
16. SUPPLIER/REPRESENTATIVE NAME/TITLE		17. CAL FIRE REPRESENTATIVE NAME/POSITION		
18. SIGNATURE	19. DATE	20. SIGNATURE	21. DATE	
<b>NOTE: EQUIPMENT SAFETY/COMPLIANCE INSPECTIONS ARE REQUIRED TO BE DOCUMENTED SEPARATELY.</b>				
<b>DISTRIBUTION: ORIGINAL TO INCIDENT PACKAGE. COPIES TO ADMINISTRATIVE UNIT AND SUPPLIER.</b>				





## CHAPTER 19: EVALUATIONS, RESOLUTIONS, & APPEALS

### **RESOLUTIONS, APPEALS, AND SANCTIONS**

**Overview.** In accordance with CAL FIRE Hired Equipment Policy 10,170, ATBM and Helibase Managers are responsible to take immediate action to resolve any issues that involve safety, productivity, operational effectiveness, and/or any other issue that in any way compromises the safe and orderly conduct of operations.

**Policy Violations.** All violations of policy by contractors and their employees will be referred to the respective AMU Program Manager for review and recommendations for possible action to the AMU Senior Aviation Officer. If action is pursued by the AMU Senior Aviation Officer, the matter will be forwarded to the Assistant Deputy Director of Aviation and Mobile Equipment.

**Harassment Policy.** For alleged harassment policy violations involving state or federal employees, CAL FIRE Legal Office and EEO shall be notified. Resolution and appeals may require more time to adjudicate if harassment is claimed against a contractor and/or their employees. If a harassment case is claimed, the operator shall be immediately removed from the incident until the investigation is concluded.



## CHAPTER 19: EVALUATIONS, RESOLUTIONS, & APPEALS

Non-Compliance. Failure to comply with any of the requirements of this agreement may result in sanctions against the operator, ground crew, and/or contractor. Non-compliance includes, but are not limited to the following:

Directly contacting Unit, Incident Command, and ECC soliciting hiring	Arriving to an incident without being hired
Misrepresenting response time	Failure to arrive at a required time without communicating circumstances for the delay
Misrepresenting the condition of the aircraft	Misrepresenting the location of the aircraft or required equipment and personnel
Operating without the required PPE or equipment	Unsafe or negligent aircraft, equipment, or ground operations
Failure to follow directions or complete assignments	Failure to communicate aircraft performance limitations
Any brokering of aircraft, equipment, or personnel that circumvents the intent of this agreement	Assigning an issued order and request number to another contractor
Accepting an issued order and request number from another contractor	Misrepresenting Small Business and Disabled Veteran-owned business status
Operating equipment on the fire line assignment without required training	Willful violation of fair hiring practices
Misrepresenting time worked on the incident	Accepting compensation to locate an aircraft or equipment to a point further than the actual preposition or position of a new incident
Civil and/or criminal action	Violation of Harassment Policy

Non-compliance may result in the following actions:

Sanction and removal from hiring roster for a specific time period	Cancellation of the contract/agreement
Indefinite removal from the hiring roster	Civil and/or criminal action
Sub-standard performance evaluation	



## CHAPTER 19: EVALUATIONS, RESOLUTIONS, & APPEALS

Sanctions. The Assistant Deputy Director of Aviation and Mobile Equipment is authorized to implement sanctions upon vendors. Actions and/or sanctions made by the Department may result from a single egregious action or a combination of actions. Sanctions may be appealed by the contractor to the Deputy Director of Fire Protection within 15 days of receipt.

Disputes. All disputes between CAL FIRE and vendors or their employees will be resolved as soon as possible in a manner consistent with CAL FIRE policy based upon the violation. If immediate resolution is not possible, the dispute must be documented in writing and forwarded to the respective AMU Program Manager for recommended resolution. The Senior Aviation Officer will review the documentation and render a decision.

Appeal Authority. The Deputy Director of Fire Protection, or designee, will be the final appeal authority for any sanctions or other resolutions administered by the Assistant Deputy Director of Aviation and Mobile Equipment. Notice of any action upheld, modified, or dismissed will be forwarded to the vendor within 30 days of the appeal being received. Notice will also be provided to the Senior Aviation Officer for documentation purposes.



# APPENDICES

## APPENDIX A: NOTIFICATION OF PIC (NOPIC) HAZARDOUS MATERIALS MANIFEST FORM DOT SP-91-98

Date: \_\_\_\_\_

Aircraft #: \_\_\_\_\_

Bureau/Agency: \_\_\_\_\_

Common Name	Shipping Name	Hazard Class	UN #	ERG #	QTY	WT
Acetylene	Acetylene, dissolved	2.1 Flammable Gas	UN1001	116		
Aerosols	Aerosols non-flammable each not exceeding one liter capacity	2.2 Non-Flammable Gas	UN1950	126		
Aerosols starting fluid,WD-40	Aerosols flammable each not exceeding one liter capacity	2.1 Flammable Gas	UN1950	126		
Batteries dry	Batteries dry, containing potassium hydroxide solid electric storage	8 Corrosive	UN3028	154		
Batteries wet	Batteries wet filled with acid	8 Corrosive	UN2794	151		
Batteries wet	Batteries wet filled with alkali	8 Corrosive	UN2795	131		
Batteries wet	Batteries wet non- spillable	8 Corrosive	UN2800	154		
Bear spray, irritants	Aerosols flammable each not exceeding one liter capacity	2.1 Flammable Gas	UN1950	126		
Biomedical waste	Infectious substances affecting humans	6.2	UN2814	158		
Cartridge	Cartridge for small arms	1.4s	UN0012	114		
Clorox, liquid bleach	Hypochlorite Solutions	8 Corrosive	UN1791	154		
Diesel	Diesel, fuel	3 Flammable	UN1993	128		
Drip torch fuel	Gasoline/ Diesel	3 Flammable	UN1203	128		
Engine, internal combustion	Engine, internal combustion, flammable gas powered <i>or</i> Engine, fuel cell, flammable gas powered <i>or</i> Machinery, internal combustion, flammable gas powered <i>or</i> Machinery, fuel cell, flammable gas powered	2.1	UN3529	135, A200		



# APPENDICES

Common Name	Shipping Name	Hazard Class	UN #	ERG #	QTY	WT
Oxygen	Oxygen, compressed	2.2 Non-Flammable Gas	UN1072	122		
Paint	Paint including lacquer, enamel, stain, shellac, solutions, varnish, polish, liquid filler, and lacquer base, wood preservative	3 Flammable	UN1263	128		
Petro-gel helitorch	Gelling agent-helitorch	3 Flammable	UN1230	131		
Petroleum oil	Petroleum oil	3 Flammable	UN1270	128		
Plastic spheres	Potassium permanganate	5.1 Oxidizer	UN1490	140		
Propane	Petroleum gases, liquefied	2.1 Flammable Gas	UN1075	115		
Total Weight						
Shipper's Signature		Location				
Pilot's Signature						

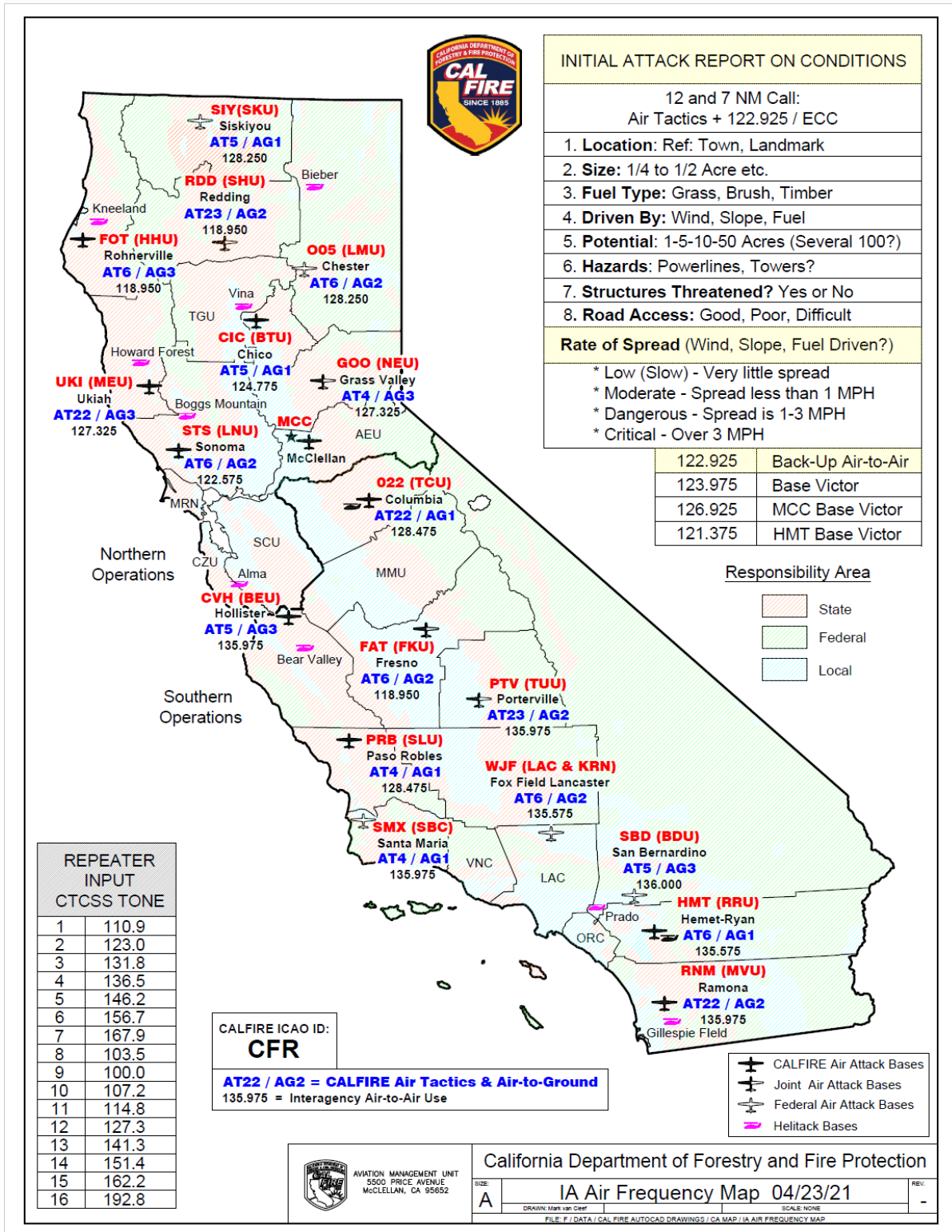
## ADDITIONAL ITEMS (FILL IN THE BLANK):

Common Name	Shipping Name	Hazard Class	UN #	ERG #	QTY	WT
Total Weight						



# APPENDICES

## APPENDIX B: FREQUENCY MAP





# APPENDICES

Based on TDFM-136/138 V21A, 18Apr22

For edits email: [stuart.sprung@fire.ca.gov](mailto:stuart.sprung@fire.ca.gov)

Ch.136	Ch.138	Unit	Radio Identifier	Unit Name
32	42	AEU	"Camino"	Amador/El Dorado
49-51	51-53	BDU	"Berdo"	San Bernardino
65,66	59	BEU	"Monterey"	San Benito/Monterey
21	35	BTU	"Oroville"	Butte
1	60	CDF	"Sacramento"	Headquarters
20	34	CZU	"Felton"	San Mateo/Santa Cruz
59,60	56	FKU	"Fresno"	Fresno/Kings
13	30	HUU	"Fortuna"	Humboldt/Del Norte
23	36	LMU	"Susanville"	Lassen/Modoc
14,15	31	LNU	"St. Helena"	Sonoma/Lake/Napa
12	29	MEU	"Howard Forest"	Mendocino
56,57	55	MMU	"Mariposa"	Madera/Mariposa
38,39	48	MVU	"San Diego"	San Diego
24,25	37	NEU	"Grass Valley"	Nevada/Yuba/Placer
35-37	45-47	RRU	"Perris"	Riverside
18	33	SCU	"Morgan Hill"	Santa Clara
28	38	SHU	"Redding"	Shasta/Trinity
31	41	SKU	"Yreka"	Siskiyou
45	49	SLU	"San Luis"	San Luis Obispo
62	58	TCU	"San Andreas"	Tuolumne/Calaveras
30	40	TGU	"Red Bluff"	Tehama/Glenn
54	54	TUU	"Visalia"	Tulare

## CAL FIRE RETARDANT JETTISON AREAS

BASE	Location		Elev.	VLAT	Contact
FOT	On Airport				
RDD	KRDD/051/10	N40.34.76 W122.05.50	1030'		
CIC	KCIC/047/20	N39.57.64 W121.28.37	5900'	Y	
CIC	KCIC/017/20	N40.03.93 W121.37.72	4100'	Y	
UKI	KUKI/059/07	N39.09.71 W123.03.47	3900'	Y	
STS	KSTS/280/07	N38.33.31 W122.57.01	1300'		Y
MCC					
GOO	KG00/042/06.5	N39.17.21 W120.53.03	4000'		
O22	O22/003/04	N38.05.60 W120.23.50	3300'		
CVH	KCVH/352/05	N36.58.58 W121.24.09	1000'		
PRB	On Airport				
FAT	KFAT/042/23	N37.00.00 W119.20.07	3400'	Y	
PTV	On Airport				Y
HMT	KHMT/038/10	N33.50.27 W116.52.42	3900'		
RNM	KRNM/011/04	N33.06.08 W116.53.12	1800'		

Ch. 136	Ch. 138	USFS AIR-TO-GROUND PRIMARY			
120	104	167.6000	A/G 43	SRF	KNF MDF LNF
122	106	167.5000	A/G 14	PNF	TNF MNF ENF TMU
123	107	169.1125	A/G 59	CNF	ANF BDF CDD SMP
124	108	167.4750	A/G 41	SQF	CND INF SNF STF LPF KNP

Ch. 136	Ch. 138	CAL FIRE PRE-ASSIGNED AIR TACTICS (Tone 1)		
187	1	151.2800	AIR TACTICS 4	GOO PRB SMX
188	2	151.2950	AIR TACTICS 5	CIC CVH SBD SIY
189	3	151.3100	AIR TACTICS 6	FAT FOT HMT O05 STS WJF
191	5	151.2875	AIR TACTICS 22	RNM O22 UKI
192	6	151.3025	AIR TACTICS 23	PTV RDD
190	4	151.2725	AIR TACTICS 21	GACC
193	7	151.3625	AIR TACTICS 24	GACC

### CAL FIRE Air Tactics Tone 1 (110.9) Tx & Rx

Ch. 136	Ch. 138	USFS PRE-ASSIGNED PRIMARY		
200	14	167.7000	AIR TACTICS 43	KNP SQF STF YNP
201	15	168.8375	AIR TACTICS 44	KNF LNF
202	16	169.1250	AIR TACTICS 46	INF BDF
205	19	167.3000	AIR TACTICS 53	MDF MNF TMU
206	20	168.3125	AIR TACTICS 54	LPF
207	21	168.3875	AIR TACTICS 55	ANF SMP
209	23	166.5625	AIR TACTICS 61	CNF SRF
210	24	167.3750	AIR TACTICS 62	ENF
211	25	167.8875	AIR TACTICS 63	PNF
212	26	168.6875	AIR TACTICS 64	SHF SNF
214	28	168.1250	AIR TACTICS 66	TNF

### VICTOR INFORMATION

130.700	LAC Primary Victor
119.975	LFD Primary Victor
129.950	VNC Primary Victor
123.025	YNP

Ch. 136	Ch. 138	AIR GUARD	
132	G1	168.6250 Tone 1 (110.9) Tx & Rx Emer. Use Only	
Ch. 136	Ch. 138	National Flight Following	
215	117	168.6500 Tone 1 (110.9) Tx & Rx	

Ch. 136	Ch. 138	CAL FIRE PRE-ASSIGNED AIR TO GROUND		
117	114	151.2200	CDF ATG 1 TX & RX (Tone 16)	BTU LAC MMU ORC RRU SBC SKU SLU TCU TGU VNC
118	115	159.2625	CDF ATG 2 TX & RX (Tone 16)	FKU KRN LMU LNU MRN MVU SHU TUU
119	116	159.3675	CDF ATG 3 TX & RX (Tone 16)	AEU BDU BEU CZU HUU MEU NEU SCU
145	111	154.8900	KERN ATG TX & RX (Tone 7) (167.9)	KRN

### CAL FIRE AIR TO GROUND Tone 16 (192.8)





# APPENDICES

## APPENDIX C: INITIAL SAFETY BRIEFING

### CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION



### **CWN/EXCLUSIVE USE INITIAL BASE SAFETY BRIEFING**

Initial	<input type="checkbox"/> Introduction of Flight Crew to Manager and Base Crew
	<input type="checkbox"/> Phone Numbers / Contact Info
	<input type="checkbox"/> Chain of Command
	<input type="checkbox"/> Base layout
	<input type="checkbox"/> Air Attack/Tanker Base: Loading Pits, Fueling Pits
	<input type="checkbox"/> Helitack Base Layout
	<input type="checkbox"/> Aircraft day off parking areas
	<input type="checkbox"/> Dispatch Procedures
	<input type="checkbox"/> 106's (Primary source for frequencies...not IA Freq Map.)
	<input type="checkbox"/> Rotation
	<input type="checkbox"/> Base Victor
	<input type="checkbox"/> Paper Work / Pay Documents
	<input type="checkbox"/> FTA Refresher
	<input type="checkbox"/> Hazard Map Briefing
	<input type="checkbox"/> Response Area Briefing (Hazards, Special Use/Restricted Areas)
	<input type="checkbox"/> Initial Attack Frequency Map Orientation- (Show how to locate a local freq. using the 3-letter identifier on the map.)
	<input type="checkbox"/> Base Expectations
	<input type="checkbox"/> Start Up / Cutoff times
	<input type="checkbox"/> Daily Briefing and Time
	<input type="checkbox"/> Staging Areas / Workstations
	<input type="checkbox"/> Feeding
	<input type="checkbox"/> Special Needs
	<input type="checkbox"/> Out of Service Procedures (Including Sick/Late Calls)
	<input type="checkbox"/> Notifications – ATGS / Manager / AMU
	<input type="checkbox"/> Status of Repairs / Maintenance
	<input type="checkbox"/> Documentation (SAFECOM under the appropriate geographical Unit (AMU, AEU, LNU, etc.))
	<input type="checkbox"/> Return to Service - AMU Only (& Helicopter Manager)
	<input type="checkbox"/> Review CARS (version 2023)

CAL FIRE Representative: \_\_\_\_\_

Pilot Name/Signature: \_\_\_\_\_

Pilot Name/Signature: \_\_\_\_\_





# APPENDICES

## APPENDIX D: FIXED WING FRAT (CWN-EU)

### CALFIRE Flight Risk Assessment Tool CWN/EU FIXED WING

Category	Risk Elements	Low	Medium	High
Crew	Composition and Experience	Current and Proficient <input type="checkbox"/>	Meets Currency <input type="checkbox"/>	Does not meet currency <input type="checkbox"/>
	Mission Specific Proficiency	Less than 30 days <input type="checkbox"/>	30 - 90 days <input type="checkbox"/>	Greater than 90 days <input type="checkbox"/>
	IMSAFE (See Full Checklist Below)	No Issues <input type="checkbox"/>	Minor issues present that can be mitigated with crew awareness or actions. <input type="checkbox"/>	Major issues identified from IMSAFE checklist <input type="checkbox"/>
Aircraft	Fully Mission Capable	No Degraded Equipment <input type="checkbox"/>	Mission-specific degraded equipment that does not affect safety of flight. <input type="checkbox"/>	Minimum equipment list items not functioning <input type="checkbox"/>
	Hours Before Maintenance Due	Projected flight hours will not reach maintenance due	Projected flight hours likely fall between maintenance due time and DNE	Projected flight hours will exceed maintenance DNE
	Take Off and Landing	AWI available or not needed <input type="checkbox"/>	Density Altitude > RWY Length & AWI unavailable <input type="checkbox"/>	Runway <4000, OR Uphill takeoff GOO/O22 <input type="checkbox"/>
Environment	Current and Forecasted Conditions	All the following: 1. >5000 AGL broken/overcast 2. Visibility 10 sm or greater 3. Winds <25 kts 4. Gust spread <10 kts	Any of the following: 1. <5000 > 2000 AGL broken/overcast 2. Visibility <10 sm > 5 sm 3. Winds 25-35 kts 4. Gust spread <15 kts 5. Moderate turbulence 6. Thunderstorms within 3-10 NM <input type="checkbox"/>	Any of the following: 1. <2000 AGL broken/overcast 2. Visibility <5 sm 3. Winds >35 kts 4. Gust spread >15 kts 5. Severe turbulence 6. Thunderstorms within <3NM
Planning	Mission and Execution	Day VFR Fire Suppression, Point-to-Point, Crew/Cargo Transport <input type="checkbox"/>	Any of the following: 1. Operations past cutoff 2. IFR Operations 3. Night point-to-point <input type="checkbox"/>	Unsupervised fire suppression operations after cutoff to 30 after sunrise (Does not apply to IAA) <input type="checkbox"/>
Comms	Equipment and Supervision	Aerial Supervision is on-scene, FTA established, all radios and ICS functioning properly <input type="checkbox"/>	Responding aircraft assumes aerial supervision, and/or 1 VHF-FM is inoperable. <input type="checkbox"/>	Responding fire suppression aircraft assumes aerial supervision and more than (1) radio is inoperable <input type="checkbox"/>
Overall Risk	Crew discusses and agrees on overall risk level and highest element.	Low <input type="checkbox"/>	Medium <input type="checkbox"/>	High <input type="checkbox"/>

#### IMSAFE Checklist:

**Illness:** Do you have current or recent illnesses that could affect flight?

**Medication:** Have you been taking any meds that could impair your ability to fly?

**Stress:** Are you experiencing unusual psychological pressure and/or anxiety?

**Alcohol:** Have you had any alcohol in the last eight hours? Are you hungover?

**Fatigue:** Are you tired/not adequately rested? Medium Risk Example: 6-7 hours sleep last 24h or 18-21 in 72h.

High Tempo Flight Ops? Medium: Congested airspace, heat, turbulence, quick turn arounds.

Long duty days/flight time near limit? Medium: 14hr duty days, 4-6 flight hrs/day or 24hrs/6 days

**Emotion:** Are you emotionally upset about anything?



# APPENDICES

## CALFIRE Flight Risk Assessment Tool CWN/EU FIXED WING

Date \_\_\_\_\_ Aircraft \_\_\_\_\_ Location \_\_\_\_\_

Crew PIC \_\_\_\_\_

CP \_\_\_\_\_

FE \_\_\_\_\_

Highest Risk Element \_\_\_\_\_

Crew Determined Overall Risk \_\_\_\_\_

Risk Element	Approval
Low	Crew
Medium	Crew; Notify 24-hour AMU OPS Duty Chief
High	Notify 24-hour AMU OPS Duty Chief

Initial Attack (IA)/Extended Attack (EA) Green – GO

IA Yellow – crew attempt to mitigate; requires next level notification when time allows (does not require approval to respond).

EA Yellow – crew attempt to mitigate; requires next level notification prior to dispatch (does not require approval)

IA/EA Red – requires next level approval from the 24-hour AMU OPS Duty Chief

**AMU OPERATIONS DUTY CHIEF (24/7): (877) 406-9997 Option 3**

### Overview

The goal of this Flight Risk Assessment Tool (FRAT) is to identify risks. Once these risks are identified crews should generate a mitigation strategy for the highest risk elements. This is a living document that will evolve as it is used by CALFIRE to evaluate and mitigate risks.

Steps:

1. As a crew, discuss each risk element and possible mitigating strategies at the beginning of a duty shift. Mark the block that corresponds with the determined risk level.
2. Throughout the day – update periodically if any category elements change.
3. Continue to move through the FRAT marking all risk elements.
4. Overall risk is the culmination of the elements. There is no set rule on what a crew determines their overall risk to be, and it is left up to the crew's discretion.

Please contact the Aviation Safety Officer - Chief Jake Marks with questions or suggested modifications to the FRAT.

Cell: (916) 207-2441 Email: [jake.marks@fire.ca.gov](mailto:jake.marks@fire.ca.gov)



# APPENDICES

## APPENDIX E: HELICOPTER FLIGHT RISK ASSESSMENT TOOL (FRAT)

### Flight Risk Assessment Tool (FRAT) HELICOPTER

Category	Risk Elements	Low	Medium	High
Crew	Composition and Experience	Current with greater than 200 hours in make/model <input type="checkbox"/>	Current with less than 200 hours in make/model <input type="checkbox"/>	Does not meet currency <input type="checkbox"/>
	Mission Specific Proficiency (hoists crew transport, fire suppression, HLCO)	Less than 30 days <input type="checkbox"/>	30 - 90 days <input type="checkbox"/>	Greater than 90 days <input type="checkbox"/>
	Flight and Duty Limitations (meets agency policy) – IMSAFE Checklist (See full checklist pg2)	No Issues <input type="checkbox"/>	Minor issues present that can be mitigated with crew awareness or actions <input type="checkbox"/>	Major issues present that exceed policy <input type="checkbox"/>
Aircraft	Fully Mission Capable	No Degraded Equipment <input type="checkbox"/>	Mission-specific degraded equipment (snorkel, hoist, sensors) <input type="checkbox"/>	Minimum Equipment list items not functioning <input type="checkbox"/>
	Hours Before Maintenance Due	Projected flight hours will not reach maintenance due <input type="checkbox"/>	Projected flight hours likely fall between maintenance due time and DNE <input type="checkbox"/>	Projected flight hours will exceed maintenance DNE <input type="checkbox"/>
Environment Night/NVG	Current and Forecasted Conditions	All the following: 1. >3000 AGL broken/ overcast 2. Visibility >5sm 3. Winds <25 kts 4. Gust spread <10 kts 5. Lunar Illumination >40% <input type="checkbox"/>	Any of the following: 1. 700-1000 AGL broken/ overcast 2. Visibility <5 sm 3. Winds 25-35 kts 4. Gust spread <15 kts 5. Moderate turbulence 6. Thunderstorms within 10-20 NM 7. Lunar Illumination 23-40% <input type="checkbox"/>	Any of the following: 1. <700 AGL broken/ overcast 2. Visibility <2sm 3. Winds >35 kts 4. Gust spread >15 kts 5. Severe turbulence 6. Thunderstorms within 10NM 7. Lunar Illumination <23% <input type="checkbox"/>
Planning	Mission and Execution	Day VFR Fire Suppression, Point-to-Point, Crew Transport, Day HLCO <input type="checkbox"/>	Day VFR Hoist, PSD, Aerial Ignition, Night Fire Suppression, Night Hoist, Night HLCO <input type="checkbox"/>	Less than 5% Power Margin <input type="checkbox"/>
Comms	Equipment and Supervision	Aerial Supervision is on-scene, FTA established, all radios and ICS functioning properly <input type="checkbox"/>	Responding aircraft assumes aerial supervision, and/or 1 VHF-FM is inoperable. <input type="checkbox"/>	Responding fire suppression aircraft assumes aerial supervision and more than (1) radio is inoperable <input type="checkbox"/>
Overall Risk	Crew discusses and agrees on overall risk level and highest element.	Low <input type="checkbox"/>	Medium <input type="checkbox"/>	High <input type="checkbox"/>

#### IMSAFE Checklist:

**Illness:** Do you have current or recent illnesses that could affect flight?

**Medication:** Have you been taking any meds that could impair your ability to fly?

**Stress:** Are you experiencing unusual psychological pressure and/or anxiety?

**Alcohol:** Have you had any alcohol in the last eight hours? Are you hungover?

**Fatigue:** Are you tired and/or not adequately rested, conducting high tempo flight operations, experienced long duty days or flight time near agency limits?

**Emotion:** Are you emotionally upset about anything?



# APPENDICES

## Flight Risk Assessment Tool (FRAT) HELICOPTER

Date \_\_\_\_\_ Aircraft \_\_\_\_\_ Location \_\_\_\_\_

Highest Risk Element \_\_\_\_\_

Crew Determined Overall Risk \_\_\_\_\_

DETERMINED OVERALL RISK	
Risk Element	Approval
Low	Crew
Medium	Crew; Notify AMU OPS Duty Chief
High	AMU OPS Duty Chief

Initial Attack (IA)/Extended Attack (EA) Green – GO

IA Yellow – crew attempt to mitigate; requires next level notification when time allows (does not require approval to respond).

EA Yellow – crew attempt to mitigate; requires next level notification prior to dispatch (does not require approval)

IA/EA Red – requires next level approval from AMU 24-hour Operations Duty line.

**AMU OPERATIONS DUTY CHIEF (24/7): (877) 406-9997 Option 3**

### Overview

The goal of this Flight Risk Assessment Tool (FRAT) is to identify risks. Once these risks are identified crews should generate a mitigation strategy for the highest risk elements. This is a living document that will evolve as it is used by CALFIRE to evaluate and mitigate risks.

Steps:

1. As a crew, discuss each risk element and possible mitigating strategies at the beginning of a duty shift. Mark the block that corresponds with the determined risk level.
2. Throughout the day – update periodically if any category elements change.
3. Continue to move through the FRAT marking all risk elements.
4. Overall risk is the culmination of the elements. There is no set rule on what a crew determines their overall risk to be, and it is left up to the crew's discretion.
5. Provide copy to Helibase Manager

Please contact the Aviation Safety Officer - Chief Jake Marks with questions or suggested modifications to the FRAT.

Cell: (916) 207-2441 Email: [jake.marks@fire.ca.gov](mailto:jake.marks@fire.ca.gov)

**CALIFORNIA DEPARTMENT OF FORESTRY  
AND FIRE PROTECTION (CAL FIRE)**

**CONTRACT AERIAL RESOURCE STANDARDS (CARS)  
AGREEMENT LETTER**

I certify that I have read and/or been briefed on CAL FIRE Contract Aerial Resource Standards (CARS), V2 dated March 1, 2024, and that I understand and will comply with these policies and procedures. I also understand that failure to comply with these procedures, or violations of Federal Aviation Regulations, or other unsafe actions may result in withdrawal of authority to perform flights for the California Department of Forestry – CAL FIRE, United States Forest Service (USFS) or US Department of the Interior: Office of Aviation Services (DOI/OAS).

San Bernardino County Sheriff's Aviation Unit  
Company: \_\_\_\_\_

Jon Anderson  
Print Name: \_\_\_\_\_

Chief Pilot  
Role: \_\_\_\_\_  
(Pilot, Chief Pilot, Director of Ops, Authorized Representative)

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**NOTE: Please upload electronic copies of this page, signed by the Chief of Operations, Chief Pilot, and all pilots in DocuSign. Additional carding received after contract execution can be mailed to [RW.CWN.Management@fire.ca.gov](mailto:RW.CWN.Management@fire.ca.gov) for helicopters and [FW.CWN.Management@fire.ca.gov](mailto:FW.CWN.Management@fire.ca.gov) for fixed wing aircraft.**