

**B1. GENERAL REQUIREMENTS****B1.1 Scope of Agreement**

B1.1.1 The intent of this Aircraft Rental Agreement (ARA) with the U.S. Department of the Interior Aviation Management (DOI AM) is to obtain commercial flight services to support Government programs. Fulfillment of these programs can only be accomplished through an effective working relationship between the Government and Vendor. Vendor employees' cooperation, professionalism and positive attitude towards accomplishment of the mission and aviation safety are essential to establish the necessary relationship that must exist to successfully complete these missions.

B1.1.2 Normal operations include point to point transportation and high reconnaissance flights. High reconnaissance is conducted above 500 feet AGL and does not include any type of precise maneuvering or specialized equipment.

B1.1.3 Special use or unique operational considerations may be requested. Operations involving aircraft in support of Government programs that require deviation from normal operating procedures, special pilot qualifications or techniques, or special aircraft requirements, may necessitate additional approval procedures. Examples are low level, helicopter external loads, etc. as identified in B8.

B1.1.4 The Government has interagency and cooperative agreements with other federal agencies, state agencies and private landholders, and may dispatch aircraft under this agreement for cooperative use.

B1.1.5 This agreement can be terminated by either party in writing at any time for any reason.

**B1.2 Certification**

B1.2.1 The Vendor shall hold a current Federal Aviation Administration (FAA) Air Carrier or Operating Certificate. Furthermore, their Operations Specifications shall authorize operation of the category and class of aircraft and conditions of flight required to complete missions for the Government.

B1.2.1.1 Aircraft used on this agreement shall be operated and maintained under provisions of 14 CFR Part 121 or 14 CFR Part 135. Aircraft operated under 14 CFR Part 135 shall be carried on the list required by 14 CFR 135.63 unless otherwise authorized by the Contracting Officer (CO). Fractional ownership aircraft shall be operated under 14 CFR Part 135.

B1.2.2 Aircraft may be ordered under this agreement that possess multiple airworthiness certificates. Operations shall be conducted in accordance with the operation limitations of that certificate.

**B1.3 Order of Precedence (Specifications)**

B1.3.1 In the event of inconsistencies within the technical specification, the following order shall be used in such resolution: (i) typed provisions of these specifications; (ii) DOI AM supplements and/or Exhibits incorporated by reference; (iii) 14 CFR incorporated by reference; (iv) aircraft manufacturer's specifications; (v) other documents incorporated by reference.

**B1.4 Agreements**

B1.4.1 The Vendor shall keep a copy of their ARA to include applicable supplements, current executed OAS-10/11, and all modifications to this agreement in each aircraft while operating the aircraft for the Government.

**B2. OPERATIONS****B2.1 Vendor's Reporting and Release Base**

B2.1.1 The Vendor's base of operations shall be as stipulated on the OAS-10/11. The Government and the Vendor may agree to a different report/release base(s) at the time an order is placed.

B2.1.2 If operating away from the Vendor's base of operations, additional allowances specified in Section C may apply.

## **B2.2 Security of Aircraft and Equipment**

B2.2.1 The security of equipment used under this agreement shall be the responsibility of the Vendor. If an aircraft is operated by Government pilots, the security of the aircraft shall be the Government's responsibility.

## **B2.3 Flight Operations**

B2.3.1 Regardless of any status as a Public Aircraft Operation, the Vendor shall operate in accordance with his approved FAA Operations Specifications, and all portions of 14 CFR Part 91 (including those portions applicable to civil aircraft) and each certification required under Sub-section B1.2 unless otherwise authorized by this agreement or the CO.

B2.3.1.1 14 CFR 121 operators shall comply with their approved standards for operations, personnel, equipment, avionics, maintenance, and servicing.

B2.3.2 **Day/Night and IFR Aircraft Use.** Single-engine airplanes with reciprocating engines shall not be operated into instrument meteorological conditions (IMC) or night conditions as defined in 14 CFR with Government personnel on board. Daylight hours are defined as 30 minutes before official sunrise to 30 minutes after official sunset, or in Alaska during extended twilight hours when terrain features can be readily distinguished for a distance of at least one mile.

B2.3.3 **Manifesting.** The pilot-in-command shall ensure that a manifest of all crewmembers and passengers on board has been completed. A copy of this manifest shall remain at the point of initial departure. Manifest changes shall be left at subsequent points of departure when practical. In those instances where multiple short flights shall be made in a specific geographical area, which involves frequent changes of passengers, a single manifest of all passengers involved may be left with an appropriate person to preclude unreasonable administrative burden.

B2.3.3.1 **Passenger Briefing.** Before each takeoff, the pilot-in-command shall ensure that all passengers have been briefed in accordance with the briefing items contained in 14 CFR 135 including:

- a. Emergency Locator Transmitter (ELT).
- b. First Aid Kit/Survival Kit (if applicable).
- c. Personal Protective Equipment (if applicable).

In those instances where short flights are made, the briefing does not need to be repeated unless new passengers come aboard.

B2.3.3.2 **Flight Plans.** Pilots shall file and operate on a FAA, ICAO, or a DOI bureau-approved flight plan. Vendor flight plans are not acceptable. Flight plans shall be filed prior to takeoff when possible.

B2.3.3.3 **Flight Following.** Pilots are responsible for flight following with the FAA, ICAO, and/or in accordance with the DOI bureau-approved flight following procedures. Check-in shall not exceed one-hour intervals under normal circumstances.

B2.3.4 **Helicopters: Toe-in, Single-Skid, Step-out Landings.** Helicopters: Due to the hazardous nature of these types of landings, toe-in, single-skid, step-out landings are prohibited unless specifically approved.

B2.3.5 **Helicopter Dual Controls.** Dual controls are required for pilot performance evaluations. Small helicopter dual controls shall be removed or deactivated prior to passenger flights. Medium helicopter dual controls may be installed during routine government use. The pilot shall occupy the manufacturer's designated pilot station during all flight operations unless otherwise authorized by the FAA. When dual

controls are installed, the pilot shall restrict access to the copilot seat. Only helicopter foreman or similar crewmembers shall be allowed to occupy the copilot seat. The pilot shall brief passengers to remain clear of the flight controls at all times. Defined as: small - up to an approved gross weight of 7,000 pounds; medium - above 7,000 pounds up to 12,500 pounds.

B2.3.6 The Department of the Interior may require transportation of hazardous materials. Such transportation shall be in accordance with 49 CFR, exemption DOT-E-9198 and the Department's Aviation Transport of Hazardous Materials handbook. A copy of the exemption and handbook must be aboard each aircraft operating under the provisions of this exemption. It is the Vendor's responsibility to ensure that each employee that may perform a function subject to this exemption receives training on the requirements and conditions of this exemption. Documentation of this training shall be retained in the employees' record.

B2.3.7 There shall be NO SMOKING in the aircraft.

B2.3.8 Pilot shall remain at the flight controls while propeller(s)/rotor(s) are operating.

### **B2.3.9 Personal Protective Equipment (PPE)**

B2.3.9.1 Personal Flotation Devices (PFD) required by 14 CFR 91 or Life Preserver(s) (TSO-C13) required by 14 CFR 135 shall be on board all aircraft operated over water and beyond power-off gliding distance to shore.

B2.3.9.2 All occupants of aircraft operated over water and beyond power-off gliding distance to shore shall **wear** an FAA approved PFD or Life Preserver, or a U.S. Coast Guard Type III PFD except in multiengine airplanes.

B2.3.9.3 When performing water takeoffs and landings, all occupants shall **wear** a PFD.

B2.3.9.4 Anti-exposure suits shall be worn in all single-engine aircraft and readily available to occupants of multiengine aircraft when conducting extended over water flight (as defined in 14 CFR 1.1) and when the water temperature is estimated to be 50 degrees Fahrenheit or less.

B2.3.9.5 Additional Personal Protective Equipment may be required for special use activities. See B8.

### **B2.4 Pilot Authority and Responsibilities**

B2.4.1 The pilot is responsible for the safety of the aircraft, its occupants, and cargo. The pilot shall comply with the directions of the Government, except, when in the pilot's judgment compliance shall be a violation of applicable federal or state regulations or agreement provisions. The pilot shall refuse any flight or landing which is considered hazardous or unsafe.

B2.4.2 The pilot shall not permit any passenger to ride in the aircraft or any cargo to be loaded unless authorized by the Government.

B2.4.3 Pilots are responsible for computing the weight and balance for all flights and for assuring that the gross weight and center of gravity do not exceed the aircraft's limitations. Pilots are responsible for the proper loading and securing of all internal or external cargo. When requested by the Government, helicopter pilots shall utilize the approved Standard Interagency Load Calculation Method (see Exhibit 1).

## **B3. PERSONNEL REQUIREMENTS**

### **B3.1 Pilot Requirements**

B3.1.1 Pilots shall have at least a FAA commercial pilot certificate with appropriate category, class, and type rating if required.

B3.1.1.1 Instrument rating for airplanes.

B3.1.2 Pilots shall hold at least a current second class medical certificate issued under provisions of 14 CFR Part 67.

B3.1.3 Pilots shall show evidence of satisfactorily passing all required FAA flight checks in accordance with provisions of 14 CFR Part 135. All pilots shall meet the currency requirements of 14 CFR 61.57.

B3.1.4 Pilot flying hours shall be verified from certified pilot records. Further verification of flying hours may be required at the discretion of the CO.

B3.1.5 Each pilot shall, at the discretion of the Government, pass an agency flight evaluation check. The flight check shall be in an aircraft supplied by the Vendor at no expense to the Government. The satisfactory completion of the evaluation flight shall not substitute for any of the total flight hour requirements listed in this agreement.

B3.1.6 Pilots shall have recorded minimum flying time as pilot-in-command as follows:

B3.1.6.1 1500 hours total pilot time.

B3.1.6.2 100 hours in category within the preceding 12 months.

### **B3.1.7 Airplane**

B3.1.7.1 1200 hours PIC, airplanes.

B3.1.7.2 25 hours make and model.

B3.1.7.3 Make and models are grouped as shown in Exhibit 3. Time in one make and model is considered adequate for all aircraft in that group.

B3.1.7.4 75 hours instrument of which 50 hours must have been in flight, for IFR operations.

B3.1.7.5 200 hours multiengine, as appropriate.

B3.1.7.6 25 hours seaplane, as appropriate.

B3.1.7.7 100 hours in turboprop or jet, as appropriate.

B3.1.7.7.1 50 hours of which must be in make and model for transport of passengers.

B3.1.7.8 250 hours large airplanes, as appropriate.

B3.1.7.8.1 50 hours of which must be in make and model for transport of passengers.

### **B3.1.8 Helicopter**

B3.1.8.1 1500 hours PIC helicopters.

B3.1.8.2 10 hours in the preceding 60 days.

B3.1.8.3 50 hours make and model. 25 PIC if pilot has satisfactorily completed an DOI AM approved school and checkout in make and model.

B3.1.8.4 10 hours make and model in the last 12 months.

B3.1.8.5 100 hours in weight class of helicopter. Defined as: "small" - up to an approved gross weight of 7,000 pounds; "medium" - above 7,000 pounds up to 12,500 pounds.

B3.1.8.6 200 hours reciprocating engine time, as appropriate.

B3.1.8.7 100 hours turbine engine time as appropriate.

### **B3.2 Personnel Duty Limitations**

B3.2.1 The Government may remove any Vendor personnel for fatigue or other causes before reaching their daily duty or flight limitations.

B3.2.2 During periods of high activity, Federal agencies may issue a notice reducing the length of personnel duty days and/or increasing days off either on a geographic or agency-wide basis.

### **B3.3 Flight Crewmember's Duty and Flight Limitations**

B3.3.1 Duty Limitations. Duty includes flight time, ground duty of any kind, and standby or alert status. Local travel up to a maximum of 30 minutes each way between the work site and place of lodging shall not be considered duty time. Flight crewmembers shall be subject to the following duty hour limitations:

B3.3.1.1 A maximum of 14 consecutive duty hours during any assigned duty period.

B3.3.1.2 Pilots shall be given two calendar days of rest (24-hour periods in Alaska) within any 14 consecutive calendar days.

B3.3.1.3 The pilot shall be given a minimum of ten consecutive hours of rest (off duty), not to include any preflight or postflight activity, prior to any assigned duty period.

B3.3.2 Flight Limitations. All flight time, regardless of how or where performed, except personal pleasure flying, shall be reported by each flight crew member and used to administer flight time and duty time limitations. Flight time to and from a duty station as a flight crew member (commuting) shall be reported and counted toward limitations if it is flown on a duty day. Flight time includes, but is not limited to: military flight time; charter; flight instruction; 14 CFR 61.56 flight review; flight examinations by FAA designees; any flight time for which a flight crew member is compensated; or any other flight time of a commercial nature whether compensated or not. Pilot time computation shall begin at takeoff and end when the aircraft is stopped at the parking spot. Flight crewmembers shall be limited to the following flight hour limitations, which shall fall within their duty hour limitations:

B3.3.2.1 A maximum of 8 hours flight time for a flight crew consisting of one pilot during any assigned duty period.

B3.3.2.1.1 A maximum of 42 hours flight time during any consecutive six-day period. When a pilot acquires 36 or more flight hours in a consecutive six-day period, the pilot shall be given the following one calendar day off (24 hours in Alaska) for rest, after which a new six-day cycle shall begin.

B3.3.2.2 A maximum of 10 hours flight time for a flight crew consisting of two pilots (8 hours for fire missions) during any assigned duty period.

B3.3.2.2.1 A maximum of 50 hours flight time during any consecutive six-day period. When a pilot acquires 40 or more flight hours in a consecutive six-day period, the pilot shall be given the following one calendar day off (24 hours in Alaska) for rest, after which a new six-day cycle shall begin.

B3.3.2.3 Pilots reporting for duty under this agreement may be required to furnish a record of all duty and flight time during the previous 14 days.

**B4. AIRCRAFT REQUIREMENTS**

These standards are in addition to airworthiness requirements.

**B4.1 Condition of Equipment**

B4.1.1 Vendor-furnished aircraft and equipment shall be operable, free of damage, and in good repair. Aircraft systems and components shall be free of leaks except within limitations specified by the manufacturer.

B4.1.2 All windows and windshields must be clean and free of scratches, cracks, crazing, distortion, or repairs, which hinder visibility. Repairs such as safety wire lacing and stop drilling of cracks are not acceptable permanent repairs. Prior to acceptance, all temporarily repaired windows and windshields shall have permanent repairs completed or shall be replaced.

B4.1.3 The aircraft interior shall be clean and neat. There shall be no unrepaired tears, rips, cracks, or other damage to the interior. The exterior finish, including the paint, shall be clean, neat, and in good condition. Any corrosion shall be within manufacturer or FAA acceptable limits.

B4.1.4 Lap belt and shoulder harness condition. The following items are **NOT** acceptable:

B4.1.4.1 Webbing. Webbing that is frayed 5 percent or more, torn webbing, crushed webbing, swelled webbing that results in twice the thickness of original web, or if difficult to operate through hardware, creased webbing (no structural damage allowed), and sun deterioration if it results in severe fading, brittleness, discoloration, and stiffness.

B4.1.4.2 Hardware. Buckle or other hardware is inoperable, nylon bushing at shoulder harness-to-lap belt connection missing or damaged, fabricated bushings or tie wraps used as bushings, rust/corrosion if not minor in nature, wear beyond normal use.

B4.1.4.3 Stitches. Broken or missing stitches, severe fading or discoloring, inconsistent stitch pattern.

B4.1.4.4 TSO Tags (see FAR 21.607). Missing or illegible tags are unacceptable unless inspection can confirm the suitability of installed equipment.

B4.1.4.5 Age. Belts/fabric over 10 years from date of manufacture require close inspection because of the elements they are exposed to, but do not have to be replaced if it can be determined they are in serviceable condition and not life limited.

**B4.2 Additional Equipment Requirements**

B4.2.1 Fire extinguisher(s), as required by 14 CFR Part 135, shall be a handheld bottle, minimum 2-B:C rating, mounted and accessible to the flight crew while seated. The fire extinguisher shall be maintained in accordance with *NFPA Manual #10, Standards for Portable Fire Extinguishers* or the Contractor's 135 operations manual.

B4.2.2 Airplanes: Shoulder harness and lap belt for front seat occupants and both occupants in tandem seat airplanes are required. The shoulder strap and lap belt shall fasten with a metal to metal, single-point, quick-release mechanism. Airplanes with a factory installed military type shoulder harness meet this requirement.

B4.2.3 Helicopters: A double strap shoulder harness with automatic or manual locking inertia reel for each front seat occupant is required. Shoulder straps and lap belts shall fasten with one single-point metal-to-metal, quick-release mechanism. Heavy-duty (military style) harnesses with fabric loop connecting the shoulder harness to the male portion of the lap belt buckle, similar to those installed in transport category helicopters, are acceptable.

**Note: Effective January 1, 2006, single or double strap shoulder harness with automatic or manual inertia reel shall be required for all other occupants. Shoulder straps and lap belts shall fasten with one single point metal-to-metal, quick release mechanism.**

B4.2.4 Helicopters: A digital hour meter is required. The meter shall be wired in series with a switch on the collective control, and a switch activated by engine or transmission oil pressure, or equivalent means, to record flight time for payment purposes.

## **B5. AVIONICS REQUIREMENTS**

B5.1 The following avionics systems, as a minimum, shall be installed or available. The Vendor's avionics systems must comply with the performance requirements listed in AVIONICS OPERATIONAL TEST STANDARDS of December 1, 1998 (copies available upon request from the Contracting Officer or DOI AM Avionics).

B5.2 Any digital aeronautical, mobile or portable VHF-FM radios furnished to meet requirements of the ARA shall also be APCO Project 25 compliant.

B5.3 One panel mounted VHF-AM aeronautical transceiver (VHF-1), operating in the frequency band of 118.000 to 135.975 MHz, with a minimum of 720 channels, and a minimum of 5 watts carrier output power.

B5.4 Airplanes: One automatic-portable/automatic-fixed or automatic-fixed Emergency Locator Transmitter (ELT), utilizing an external antenna and meeting the requirements of 14 CFR 91.207 (excluding section f.), shall be installed per the manufacturer's installation manual, in a conspicuous or marked location.

B5.5 Helicopters: One automatic-portable/automatic-fixed or automatic-fixed ELT, utilizing an external antenna and meeting the requirements of 14 CFR 91.207 (excluding section f.), shall be installed per the manufacturer's installation manual, in a conspicuous or marked location.

B5.6 Helicopters operating in Alaska and Hawaii: In lieu of the ELT requirement above, an automatic fixed ELT (ELT AF) meeting TSO-C91A or an ELT that requires tools to remove it from the aircraft may be acceptable when a handheld portable ELT/EPIRB is furnished. The ELT/EPIRB shall be compact and easily carried by the PIC. A handheld ELT/EPIRB such as Emergency Beacon Corporation's model EBC-102 with telescoping antenna, or Emergency Locator Products Corporation's model ELP-1000 meets this requirement.

B5.7 The Vendor shall allow installation of a Government Furnished Equipment (GFE) Automated Flight Following (AFF) system in the aircraft when requested by the government.

B5.8 Other avionics may be required for special-use missions. See the applicable Supplement.

B5.9 Avionics installation and maintenance standards:

B5.9.1 All avionics systems used in or on the aircraft for this contract and their installation and maintenance shall comply with all manufacturer's specifications and applicable Federal Aviation Regulations contained within 14 CFR regardless of any exclusions for public aircraft allowed in 14 CFR.

B5.9.2 Strict adherence to the recommendations in FAA AC 43.13-1B Chapter 11, "Aircraft Electrical Systems", and Chapter 12, "Aircraft Avionics Systems", as well as AC 43.13-2A Chapter 1, "Structural Data", Chapter 2, "Radio Installation", and Chapter 3, "Antenna Installation", is required.

B5.9.3 All Avionics systems requiring an antenna shall be installed with a properly matched, aircraft-certified antenna unless otherwise specified. Antennas shall be polarized as required by the avionics system, and have a VSWR of 2.5 to 1 or better.

B5.9.4 Avionics equipment mounting location and installation shall not interfere with passenger safety,

space, and comfort. Avionics equipment shall not be mounted under seats designed for deformation during energy attenuation. In all instances, the designated areas for collapse shall be protected. Avionics equipment normally operated by both pilot and observer/co-pilot (FM-1, AUX-FM, audio control system, etc.) shall be mounted in the optimum location for the make, model, and series of aircraft offered. Mounting(s) which offer full and unrestricted movement of each control to both the pilot and observer/co-pilot, when seated, without interference from clothing, cockpit structure, or flight controls, shall be a goal in the selection of location.

#### **B6. MAINTENANCE REQUIREMENTS**

B6.1 Aircraft shall be maintained in accordance with all applicable FAA Airworthiness Directives (AD), Mandatory Manufacturer's Bulletins, Vendor's Operations Specifications as required, or as identified by DOI AM.

B6.2 Maintenance Test Flight. A functional maintenance test flight shall be performed, at the Vendor's expense, following installation, overhaul, major repair, or replacement of any engine, propeller, rotor, primary flight control, or when requested by the CO. The result of this test flight shall be entered in the aircraft maintenance record by the pilot.

#### **B7. FUEL AND SERVICING REQUIREMENTS**

B7.1 All fuel must be commercial (or military) grade aviation fuel approved for use by the airframe and engine manufacturer.

B7.2 Government personnel (passengers) shall not be involved with any refueling of agreement aircraft.

B7.3 Aircraft shall not be refueled while engines are running and propellers/rotors are turning.

#### **B7.4 Alaska fuel transfer equipment standards are as follows:**

B7.4.1 Filtration must be sized to withstand fuel system pressures and flow rates.

B7.4.2 Filtration must meet one of the following qualifications: Institute of Petroleum (IP) Specifications and Qualification Procedures-Aviation Fuel Monitors with Absorbent Type Elements, or API 1581 Specifications and Qualification Procedures for Aviation Jet Fuel Filter/Separators. Some examples of IP qualified elements are Velcon CDF 210K, CDF 220K, ACO 51201K, ACO 21201K, ACO 40501SPK, and ACO 40901SPK.

B7.4.3 The filter vessel shall be placarded indicating the filter change date, element model number, vessel model number, and vessel and element manufacturer. Spare filters shall be available to allow periodic and emergency filter changes.

B7.4.4 Differential pressure gages must be installed on refueling systems operating at 25PSI and above. Filter change out shall be accomplished if differential pressure is 10 PSI or greater. Filter change out shall be accomplished annually unless early change out is warranted. The manufacturer's guidance for filter change related to contamination build up shall be adhered to.

B7.4.5 Refueling nozzles shall be aviation qualified with bonding wire, dust cap and 100-mesh screen installed. Hold open devices on overwing nozzles are prohibited.

B7.4.6 Refueling systems must have a ground reel with clip to allow system bonding with aircraft.

B7.4.7 Refueling systems must be designed to allow periodic removal of water and particulate contamination.

B7.4.8 Only hoses designed for dispensing the type of aviation fuel being utilized are acceptable. Hoses that comply with API BUL 1529 hose Type C, Type F and Type CT are known to meet this

requirement. Hoses shall be kept in good repair and stored to prevent damage.

B7.4.9 Aircraft refueling hose shall meet API 1529 Type C or BS 3158 qualification.

B7.4.10 Filter vessel sumps shall be drained of water daily before system use.

B7.4.11 Water and particulate contamination shall be removed from refueling systems when detected.

**B8. SUPPLEMENTS** - This agreement incorporates in full text all supplements for which you are approved. Upon request, the CO shall make available ANY FURTHER Supplements referenced below (B8.1 – B8.19). The supplements impose special operational equipment and personnel requirements that are in addition to the basic ARA. The Vendor must be approved before conducting these activities.

When ordered for service under any of the following supplements, all requirements shall be adhered to in their entirety unless specifically authorized by the CO.

B8.1 Helicopter Class A, B & C External Load Including Long Line.

B8.2 Interagency Fire Helicopter Requirements.

B8.3 Local Fire Helicopter Requirements.

B8.4 Reserved.

B8.5 Resource Reconnaissance.

B8.6 Low Level Activities.

B8.7 Helicopter Offshore Platform/Vessel Landings and Extended Over Water.

B8.8 Fuel Servicing Vehicle.

B8.9 Airplane Wheel Operations on Unprepared Landing Areas.

B8.10 Paracargo.

B8.11 Aircraft Maintenance Personnel Requirements.

B8.12 Reserved.

B8.13 Reserved.

B8.14 Reserved.

B8.15 Interagency Air Tactical.

B8.16 Fire Reconnaissance.

B8.17 Reserved.

B8.18 Reserved.

B8.19 Reserved.

<b>INTERAGENCY HELICOPTER</b> <b>LOAD CALCULATION</b> OAS-67/FS 5700 (11/03)		MODEL	
		N#	
PILOT(S)			DATE
MISSION			TIME
1 DEPARTURE	PA	OAT	
2 DESTINATION	PA	OAT	
3 HELICOPTER EQUIPPED WEIGHT			
4 FLIGHT CREW WEIGHT			
5 FUEL WT ( _____ gallons X _____ lbs per gal)			
6 OPERATING WEIGHT (3 + 4 + 5)			
	Non-Jettisonable		Jettisonable
	HIGE	HOGE	HOGE-J
7a PERFORMANCE REF (List page/chart from FM)			
7b COMP GROSS WT (FM performance Section)			
8 WT REDUCTION (Req for all Non-Jettisonable)			
9 ADJUSTED WEIGHT (7b minus 8)			
10 GROSS WT LIMIT (FM Limitations Section)			
11 SELECTED WEIGHT (Lowest of 9 or 10)			
12 OPERATING WEIGHT (From Line 6)			
13 ALLOWABLE PAYLOAD (11 minus 12)			
14 PASSENGERS/CARGO MANIFEST			
15 ACTUAL PAYLOAD (Total of all weights listed in Item 14) <b>Line 15 must not exceed Line 13 for the intended mission.</b>			
PILOT SIGNATURE			
MGR SIGNATURE			HazMat Yes No

## INTERAGENCY HELICOPTER LOAD CALCULATION INSTRUCTIONS

A load calculation must be completed for all flights. A new calculation is required when operating conditions change ( $\pm 1000'$  in elevation or  $\pm 5^{\circ}\text{C}$  in temperature) or when the Helicopter Operating Weight changes (such as changes to the Equipped Weight, changes in flight crew weight or a change in fuel load).

All blocks must be completed. Pilot must complete all header information and Items 1-13. Helicopter Manager completes Items 14 & 15.

**1. DEPARTURE** – Name of departure location and current Pressure Altitude (PA, read altimeter when set to 29.92) and Outside Air Temperature (OAT, in Celsius) at departure location.

**2. DESTINATION** – Name of destination location and PA & OAT at destination. If destination conditions are unknown, use MSL elevation from a map and Standard Lapse Rate of  $2^{\circ}\text{C}/1000'$  to estimate OAT.

Check the box in Line 1 (Departure) or Line 2 (Destination) to indicate the most restrictive values used to obtain Computed Gross Weight in Line 7b.

**3. HELICOPTER EQUIPPED WEIGHT** – Equipped Weight equals the Empty Weight (as listed in the Weight and Balance Data) plus the weight of lubricants and onboard equipment required by contract (i.e. survival kit, rappel bracket).

**4. FLIGHT CREW WEIGHT** – Weight of the Pilot and any other assigned flight crewmembers on board (i.e. Co-pilot, flight engineer, navigator) plus the weight of their personal gear.

**5. FUEL WEIGHT** – Number of gallons onboard **X** the weight per gallon (**Jet Fuel = 7.0 lbs/gal**; AvGas = 6.0 lbs/gal).

**6. OPERATING WEIGHT** – Add items 3, 4 and 5.

**7a. PERFORMANCE REFERENCES** – List the specific Flight Manual supplement and **hover performance** charts used to derive Computed Gross Weight for Line 7b. Separate charts may be required to derive HIGE, HOGE and HOGE-J. **HIGE**: use Hover-In-Ground-Effect, External/Cargo Hook Chart (if available). **HOGE & HOGE-J**: use Hover-Out-Ground-Effect charts for all HOGE operations.

**7b. COMPUTED GROSS WEIGHT** - Compute gross weights for HIGE, HOGE and HOGE-J from appropriate Flight Manual **hover performance** charts using the Pressure Altitude (PA) and temperature (OAT) from the most restrictive location, either Departure or Destination. Check the box in Line 1 (Departure) or Line 2 (Destination) to indicate which values were used to obtain Computed Gross Weight.

**8. WEIGHT REDUCTION** – **The Government Weight Reduction is required for all “non-jettisonable” loads.** The Weight Reduction is optional (mutual agreement between Pilot and Helicopter Manager) when carrying jettisonable loads (HOGE-J) where the pilot has total jettison control. The appropriate Weight Reduction value, for make & model, can be found in the current helicopter procurement document (contract).

**9. ADJUSTED WEIGHT** – Line 7b minus Line 8.

**10. GROSS WEIGHT LIMITATION** – Enter applicable gross weight limit from **Limitations section** of the basic Flight Manual or the appropriate Flight Manual Supplement. This may be Maximum Gross Weight Limit for Take-Off and Landing, a Weight/Altitude/Temperature (WAT) limitation or a Maximum Gross Weight Limit for External Load (jettisonable). Limitations may vary for HIGE, HOGE and HOGE-J.

**11. SELECTED WEIGHT** – **The lowest weight, either line 9 or 10, will be entered for all loads.** Applicable limitations in the Flight Manual must not be exceeded.

**12. OPERATING WEIGHT** – Use the value entered in Line 6.

**13. ALLOWABLE PAYLOAD** – Line 11 minus Line 12. The maximum allowable weight (passengers and/or cargo) that can be carried for the mission. Allowable Payload may differ for HIGE, HOGE and HOGE-J.

**14. PASSENGERS AND/OR CARGO** – Enter passenger names and weights and/or type and weights of cargo to be transported. Include mission accessories, tools, gear, baggage, etc. A separate manifest may be used.

**15. ACTUAL PAYLOAD** – Total of all weights listed in Item 14. Actual payload must not exceed Allowable Payload for the intended mission profile, i.e. HIGE, HOGE or HOGE-J.

**Both Pilot and Helicopter Manager must review and sign the form.** Check if HazMat is being transported. Manager must inform the pilot of type, quantity and location of HazMat onboard.

HELICOPTER FUEL CONSUMPTION AND WEIGHT REDUCTION CHART

		Fuel Consumption	Load Calculation
		Gallon/Hour	Weight Reduction-Lb
EUROCOPTER	AS-330J	179	NOT ESTABLISHED
	AS-332L-1	160	NOT ESTABLISHED
	AS-350B	45	130
	AS-350B-1	46	160
	AS-350B-2	48	160
	AS-350B-3	50	175
	AS-350D	38	130
	AS-355F-1	58	140
	AS-355F-2	58	140
	AS-365N-1	87	275
	BK-117	77	160
	BO-105CBS	55	180
	SA-315B	58	180
	SA-316B	58	170
	SA-318C	56	80
	SA-319B	55	NOT ESTABLISHED
	SA-341G	56	170
	EC-135	64	220
	BELL	47	17A
47/SOLOY		23	120
204B (UH-1 SERIES)		88	200
205A-1		89	260
206B-II		25	100
206B-III		27	130
206L-1		32	150
206L-3 (Ind L-1 C30P)		38	180
206L-4		38	180
212		100	390
214B		160	380
214ST		133	NOT ESTABLISHED
222A		70	NOT ESTABLISHED
222B		83	NOT ESTABLISHED
222UT		83	NOT ESTABLISHED
407		45	155
412		110	390
412HP	110	390	
MD	500C	23	110
	500D/E	28	120
	520N	32	100
	530F	34	120
	600N	41	155
	900/902	69	210
HILLER	SL-3/4	21A	90
	UH-12	17A	90
	1100B	22	130
	UH-12/SOLOY	23	100
SIKORSKY	S-55T	47	170
	S-58D/E	83A	OGE 000 IGE 400
	S-58T/PT6T-3	115	OGE 000 IGE 400
	S-58T/PT6T-6	115	OGE 000 IGE 460
	S-62A	70	300
	S-70	160	N/A

"A" after the gallons indicates Avgas; all others are turbine.

AIRCRAFT MAKE AND MODELS

Like Make and Models-Fixed Wing	
Make	Model
<b>Reciprocating Engine Aircraft</b>	
American Champion	7EC, GC, KC series and 8KCAB, 8GCBC
Cessna	172, 175, 177, 182
Cessna	172RG, 177RG, 182RG, 210
Cessna	170, 180, 185, L-19
Cessna	205, 206, 207
Cessna	303, 310, 320, 340, 400 series
Cessna	336, 337
Piper	PA- 10, 11, 12, 14, 16, 18, 20
Piper	PA- 24, 28R, 32R
Piper	PA- 22, 32, 28 (fixed gear)
Piper	PA-23, 30, 31, 34, 39, 40
Beech	33, 35, 36
Beech	55, 56, 58, 60, 65, 70, 80, 95
Beech	18
Helio	H250, 295, 395, 400, 700, 800
Maule	M-4, 5, 6, 7
Mooney	M-20, 21 series
Rockwell Commander	500, 560, 680, 720
<b>Turboprop Airplanes</b>	
Beech	"King Air" series 90, 100, 200, 300
Beech	18 turbine series
Cessna	206, 207 "Soloy Turbine"
Cessna	208 "Caravans"
Cessna	425, 441 "Conquest I & II"
Piper	PA-31T "Cheyenne I & II, PA-42 "Cheyenne III & IV
Rockwell Commander	680 turbine: 681, 690, 840, 900, 980, 1000
<b>Helicopters</b>	
Bell	47 series (all Recips)
Bell	47 series Soloy
Bell	204, 205, UH-1, All series
Bell	206A, 206B, 206B III
Bell	206L, 206L-1, 206L-3, 206L-4
Bell	212, 412,
MD	369 (500) series
Boeing	MD 600N
Boeing	MD-900, 902
Enstrom	28 series
Eurocopter	SA 315, SA 316, SA 319
Eurocopter	AS 350 series
Eurocopter	AS 355 series
Hiller	12 series (Recips)
Hiller	12 series (Soloy)
Schweizer	269, 300 series (Recips)

This list does not specifically follow the FAA guidelines as it relates to 14 CFR 135.293 competency.

Similar military aircraft are not acceptable for grouping.

Grouping of like makes and models of aircraft allows determination of pilot authority. Differences training must be completed for each of the make/models in a grouping. Make/model qualification and currency are met with time flown in any aircraft in grouping.