



## LARGE AIRTANKER SERVICES SUPPLEMENTARY REQUIREMENTS

### 1. PURPOSE

- 1.1 This Appendix sets out additional information regarding the expected content of any NAFC Contract that may be executed pursuant to this NAFC Request For Proposals for Large Airtanker Services.
- 1.2 This Appendix must be read in conjunction with the current NAFC Specimen Contract.
- 1.3 Any Contract that may be executed pursuant to this RFP will be based on the Specimen Contract and the Large Airtanker Services Supplementary Requirements in this Appendix.

### 2. CONTRACT – GENERAL

- 2.4 The Specimen Contract is drafted primarily as a template for a Primary Contract for Absolute Availability Services. If Partial Availability Services are contracted, the template will be adjusted accordingly.
- 2.5 For large airtanker and associated supervision aircraft Services a Performance Bond will be required in accordance with the respective clauses of Specimen Contract, except that the Performance Bond will be calculated based only on the Standing Charges applicable to the Queensland-based Service.

### 3. TRAINING

- 3.1 The Contractor will be required to provide courses of training, specific to the Contractor supplied aircraft, facilities and systems, for the following Member personnel:
  - a. Air Attack Supervisors who will be involved in directing and supervising operations of the large airtanker from the supervision aircraft or from other aircraft; and
  - b. Ground support personnel such as Aircraft Officers, Airbase Managers and Fire Retardant / Fire Suppressant loaders.
- 3.2 The Contractor will be required to provide short briefings for Member personnel regarding the capabilities and operation of the aircraft as required.

### 4. AIRTANKER

- 4.1 Depending on the Services proposed and ultimately accepted, the Schedules of the respective contract will incorporate terms and conditions that reflect the following requirements. These are likely to be incorporated into Schedules 1, 4, 5 and H, as appropriate.
- 4.2 The airtanker must have a Standard Certificate of Airworthiness or a Special Certificate (Restricted Category) of Airworthiness, or an equivalent in the country of registration of the aircraft, that is acceptable to NAFC.
- 4.3 *(Strongly preferred)* The airtanker must be approved as a Type 1 or Type 2 airtanker by the United States Interagency Airtanker Board.
- 4.4 The airtanker must be powered by gas turbine engines (including turboprop, turbofan and turbojet engines).



- 4.5 The airtanker must be multi-engined, with sufficient performance to safely continue a take-off at the Maximum Normal Operating Weight (MNOW) under ISA plus 25°C in the event of failure of the critical engine at a critical point in the take-off, given that the load, or part of the load may be dropped during the procedure. Maximum Normal Operating Weight means that the airtanker is loaded with the maximum weight of Fire Retardant (SG = 1.07) that can be carried and sufficient fuel for 3 hours of typical firefighting operations, plus reserves.
- 4.6 *(Preferred)* The airtanker must have sufficient performance to safely continue a take-off at the Maximum Normal Operating Weight under ISA plus 25°C in the event of failure of the critical engine at a critical point in the take-off, without dropping the load during the procedure.
- 4.7 *(Preferred)* The airtanker must be capable of landing with the delivery system containing a load, or partial load, of Fire Retardant / Fire Suppressant.
- 4.8 The airtanker must be capable of flight under the Instrument Flight Rules (IFR), including at night, in Australia; and will be capable of conducting GNSS instrument approaches and Category 1 ILS approaches.
- 4.9 *(Strongly Preferred)* In addition to the event reporting requirements of NAFC Standard OPS-014: Tracking, Event Reporting and Messaging, the height of the drop above ground level must be reported. (Note: It is acknowledged that some devices may record height above tree canopy level. This is a satisfactory approach).
- 4.10 *(Preferred)* In addition to the event reporting requirements of NAFC Standard OPS-014: Tracking, Event Reporting and Messaging, the aircraft must be equipped with a device to measure and record the maximum and minimum G-loading that occurs during any approach to the drop, the drop itself and the departure from the drop.
- 4.11 In addition to the avionics requirements of NAFC Standard OPS-020 Avionics and Communications, the airtanker must be equipped with a Traffic Collision Avoidance System.
- 4.12 *(Strongly Preferred)* In addition to the avionics requirements of NAFC Standard OPS-020 Avionics and Communications, the airtanker must be equipped with a Ground Proximity Warning System.
- 4.13 *(Strongly Preferred)* In addition to the avionics requirements of NAFC Standard OPS-020 Avionics and Communications, the airtanker must be equipped with a crash-resistant flight data recorder system.
- 4.14 *(Strongly Preferred)* In addition to the avionics requirements of NAFC Standard OPS-020 Avionics and Communications, the airtanker must be equipped with a crash resistant cockpit voice recorder system.
- 4.15 *(Preferred)* In addition to the avionics requirements of NAFC Standard OPS-020 Avionics and Communications, the airtanker must be equipped with a cockpit environment recording system.
- 4.16 Crew members are required to utilise protective helmets during low-level operations, as otherwise required by NAFC Standard OPS-18 Personal Protective Equipment, where the wearing of protective helmets is compatible with the aircraft type.



- 4.17 *(Preferred)* Where a suitable system is available for the aircraft type, the airtanker must be fitted with an amplified warning siren, suitable for warning persons on the ground of an impending drop by the airtanker (refer clause 2.18 of Schedule A the Specimen Contract).
- 4.18 *(Strongly Preferred)* The Flight Crew of any airtanker must be qualified for initial attack by the United States Department of Agriculture, Forest Service; and the qualification must be current at the time of delivery of the Service. (Alternative, equivalent qualifications will be considered, full details should be included in proposals).

## **5. AIRTANKER CONTINUING AIRWORTHINESS PROGRAM**

- 5.1 The Contractor must develop and maintain a comprehensive Continuing Airworthiness Program (CAP) for the airtanker to ensure that the airworthiness of the aircraft is maintained throughout the Contract Period.
- 5.2 The CAP must clearly define the Contractor's airworthiness organisation, including responsibilities and authorities for implementing the CAP.
- 5.3 The CAP must include a specific component designed to predict and prevent airframe failure, which will consider, but is not limited to considering:
- a. fatigue and damage tolerance assessment and evaluation; and
  - b. prediction and mitigation of widespread fatigue damage (WFD).
- 5.4 The CAP must include an Operational Load Monitoring (OLM) program.
- 5.5 The CAP must satisfy all requirements of:
- a. the Australian Civil Aviation Safety Authority (CASA); and
  - b. the relevant aviation administration of the country of registration of the aircraft.
- 5.6 Prior to commencement of any Service Period the Contractor must supply NAFC with a full description of the CAP.

## **6. FIREBOMBING DELIVERY SYSTEM**

- 6.1 Firebombing Delivery Systems (comprising the tank, gate or doors and controllers, and including firmware, software etc.) on proposed airtankers should have received or be capable of receiving approval (provisional or full) from a NAFC Member (Refer to *NAFC Standard OPS 001 Approval of Firebombing Delivery Systems*).
- 6.2 The Firebombing Delivery System must be capable of delivering Fire Suppressants and Fire Retardants.
- 6.3 Note: Contracted aircraft will only be expected to accommodate products that are listed as approved for the relevant aircraft type on the United States Department of Agriculture's Wildland Fire Chemicals System *Qualified Product List*.
- 6.4 *(Preferred)* The airtanker must be equipped with an on board suppressant concentrate reservoir and injection systems capable of injecting and satisfactorily mixing a measured amount of Fire Suppressant Concentrate (foam and/or gel) into the Firebombing Delivery System tank.
- 6.5 The Firebombing Delivery System must be capable of "splitting" loads (i.e. making successive drops from the same load) into at least four successive drops.



- 6.6 The Firebombing Delivery System must allow for the operator to control the flow rate of a drop in order to vary the level of coverage on the ground.
- 6.7 The Firebombing Delivery System must be capable of being ground-filled with Fire Suppressant and Fire Retardant through a hose, or multiple hoses, equipped with 3 inch 'Camlock' fittings at a flow rate of at least 1900 litres per minute per filling port.

*Note: Systems capable of higher ground-fill flow rates are preferred.*

## **7. SUPERVISION AIRCRAFT**

- 7.1 Depending on the Services proposed and ultimately accepted, the Schedules of the respective contract will incorporate terms and conditions that reflect the following requirements. These are likely to be incorporated into Schedules 1, 4, 5 and B, as appropriate.
- 7.2 The supervision aircraft must have a Standard Certificate of Airworthiness or an equivalent in the country of registration of the aircraft that is acceptable to NAFC.
- 7.3 The supervision aircraft must meet all requirements for non-scheduled carriage of passengers for hire and reward in Australia.
- 7.4 The supervision aircraft must be multi-engined, or if single-engined must be powered by a gas turbine engine.
- 7.5 If the supervision aircraft is required to be used as a Lead Plane it must be multi-engined.  
*Note: NAFC does not normally require the use of a Lead Plane, this requirement only applies if operation of the respective airtanker requires the use of a Lead Plane.*
- 7.6 If the supervision aircraft is single-engined it must meet the requirements prescribed by the Civil Aviation Safety Authority for IFR operations by an Approved Single-Engine Aeroplane (ASEA).
- 7.7 If the supervision aircraft is multi-engined it must have the performance, in the event of the failure of the most critical engine, to maintain level flight an altitude of 10,000 feet AMSL under ISA plus 25°C when operating at Maximum Take-off Weight.
- 7.8 If the supervision aircraft is multi-engined it must have sufficient performance to safely continue a take-off at MTOW under ISA plus 25°C in the event of failure of the critical engine at a critical point in the take-off. *(Calculated at the respective NOB, nil wind, under the IFR.) If the supervision aircraft proposed is not capable of meeting this requirement, proposals should advise the All Up Weight at which the requirement can be met.)*
- 7.9 The supervision aircraft must be capable of flight under the Instrument Flight Rules, including at night, in Australia; and must be capable of conducting GNSS instrument approaches and Category 1 ILS approaches.
- 7.10 The supervision aircraft must meet the requirements for Air Attack Supervision Aircraft of Schedule B of the Specimen Contract.
- 7.11 In addition to the avionics requirements of NAFC Standard OPS-014: Tracking, Event Reporting and Messaging the aircraft must be equipped with a Traffic Collision Avoidance System.



- 7.12 *(Preferred)* In addition to the avionics requirements of NAFC Standard OPS-014: Tracking, Event Reporting and Messaging the supervision aircraft must be equipped with a Ground Proximity Warning System.
- 7.13 The supervision aircraft must be equipped with a system that allows the aircraft to leave a short trail of visible smoke in the atmosphere, on command of the pilot, in order to assist with the provision of clear instructions to the airtanker.
- 7.14 *(Preferred)* In addition to the avionics requirements of NAFC Standard OPS-020 Avionics and Communications, the supervision aircraft must be equipped with a cockpit environment recording system.
- 7.15 Where the wearing of protective helmets is compatible with the aircraft type, all crew members (including any Member personnel) must utilise protective helmets during take-off, landing and all low-level operations.
- 7.16 Where a suitable system is available for the aircraft type, the supervision aircraft must be fitted with an amplified warning siren, suitable for warning persons on the ground of an impending airtanker drop.

## **8. AIRCRAFT MAINTENANCE**

- 8.1 Prior to any Service Period the Contractor must demonstrate to the satisfaction of NAFC that all large airtankers and supervision aircraft have a fully documented maintenance history for the complete life of the airframe and engines, and that the aircraft have been appropriately maintained over their service life to date.
- 8.2 The Contractor must demonstrate to the satisfaction of NAFC that an appropriate program of maintenance is in place for all large airtankers and supervision aircraft that will meet all requirements of:
  - a. the Australian Civil Aviation Safety Authority; and
  - b. the relevant aviation administration of the country of registration; and
 will assure the continued safe and reliable operation of the aircraft throughout all Service Periods.
- 8.3 Prior to commencement of any Service Period the Contractor must supply NAFC with the Equipment List and Minimum Equipment List for the airtanker and the supervision aircraft.
- 8.4 Within the twelve months prior to commencement of the first Service Period, all airtankers and supervision aircraft must be weighed in the configuration in which they will be used to provide the Services required under this Contract. The aircraft shall also be weighed following any major repair, major alteration or change to the configuration which significantly affects the centre of gravity of the aircraft.
- 8.5 All weighing of aircraft must be performed on scales that have been certified as accurate within the preceding 2 years by an accredited weights and measures laboratory.
- 8.6 Prior to commencement of any Service Period the Contractor must supply NAFC with evidence of compliance with the aircraft weighing requirements above and must supply the weights of the airtanker and the associated supervision aircraft determined by the most recent weighing