ICASC Recommended Flight Inspection & Flight Validation Contract Annex

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Introduction

Flight Inspection and Flight Validation represents a rather demanding operational environment in aviation. Flying low or even very low at times, in congested airspace shared by platforms operated at varying airspeeds from ultralight and gliders to heavy airliners, under considerable time pressure to keep the impact of the Flight Inspection mission on the rest of the community as low as possible - this very nature of Flight Inspection and Flight Validation work translates directly into a certain amount of risk elements that have to be identified, addressed and subsequently mitigated in order to achieve a safe and reliable mission outcome.

In providing this level of safety, both the customers of Flight Inspection and Flight Validation services (Customers) as well as the provider of these services, the Flight Inspection and Validation service providers (Contractors) share a responsibility to achieve a Duty of Care to ensure the highest level of safety is achieved on every mission.

In order to achieve this level of safety, this Annex is an integral part of the process for tendering for Flight Inspection and Validation services. This Annex addresses a number of mission specific requirements to which all contractors must adhere. It is based on the safety framework ICASC has developed and defined as the standards in Flight Inspection and Flight Validation operations. Further guidance on this matter may be taken from ICASC webpage under www.icasc.com.

In light of the aforementioned Duty of Care, this Annex serves 2 purposes:

1. It identifies and thus addresses the inherent risk elements of the Flight Inspection and Flight Validation work at hand

   and

2. It provides a level playing field for all potential contractors, as adhering to high standards in flight operations inevitably involves a higher cost base by higher expenditure on training, equipment and restrictions on operating parameters

In order to achieve the aforementioned goals of safety, this Annex requires any potential contractor bidding for a specific Flight Inspection or Flight Validation contract to meet the following requirements:

A. General Set-up

The Contractor shall have in place a clearly defined set-up, where size, staff numbers, management, equipment, mission profile and theatre of operations are in line with the intended operation, with no ambiguities.

Due to the fact that Flight Inspection missions are time-critical, this Annex requires to have a back-up solution in place in case the own resources (aircraft, qualified staff) are unavailable.

B. Organisational Set-up

The Contractor shall have in place an organisational set-up that clearly reflects that its organization is aware of what it is doing and is organizing itself accordingly. A clearly defined path of accountability, and a management structure is paramount. Factors to address this requirements are at least, but not limited to

- B1. Establish a clear way of communicating its set-up, best in a comprehensive Operations Manual OM.
- B2. Establish a clearly defined Statement of Work
- B3. Establish a clearly defined path of accountability and management structure. Communicate this structure unambiguously
- B4. Establish a clearly defined set of rules, procedures and best practises, Clearly outlined in a comprehensive Operations Manual in an Operations Manual (OM)
- B5. Establish a Safety Philosophy and a Safety Management System
- B6. Establish an Emergency Response Plan in place

In order to meet the requirements under B., this Annex requires any potential Contractor to operate under an approved Air Operator Certificate (AOC) by its respective Authority, or provide an equivalent level of compliance.

C. Flight Operations

Any potential Contractor for a specific Flight Inspection and Flight Validation Contract shall meet the operational requirements as laid down in the following Annexes chapters:

C1. Operating Limits

The Contractor shall

C.1.1. Establish Operating Limits according to the objectives above.

C.1.2. have his operating limits reflect and align with the organisation's objectives in terms of mission profile, equipment, and crew requirements, especially to include qualification, training, recurrency status and Flight Time Limitations (FTLs).

C.1.3. have his Operating Limits reflect the operational environment of the organisation

C.1.4. Establish Flight and Rest Time Limitations (FTLs). These FTLs must reflect individual operational circumstances and requirements of the affected organisation.

C.1.5. have Weather minima defined

C.1.6. have Minimum Equipment status and requirements defined

C.1.7. have defined Crew qualification, training and recurrency standards

C.1.8. have Airport criteria established

C.1.9. have defined Security criteria

C.1.10. have Night Ops specified

C.1.11. have established a clear, unambiguously method for communicating these limitations, such as an OM

C2. Equipment

The Contractor is obliged to meet equipment requirements as follows:

C.2.1. All aircraft utilised must be in line with mission profile and mission environment.

C.2.2. This contract stipulates the use of multi engine aircraft for Flight Inspection / Flight Validation missions.

C.2.3. Aircraft in use are be upgraded, and must be maintained, as best as possible to the current, mission-specific requirements.

C.2.4. The Maintenance provider for the aircraft of the Contractor must be able to support the aircraft in all theatres of operation.

For the benefit of Situational Awareness this Annex requires:

C.2.5. Glass cockpits and Moving Map Displays

C.2.6. An interface between Flight Inspection System (FIS) and the cockpit, either by utilising the existing avionics or by providing an additional display

C.2.7. a suitable FMS

C.2.8. In case the aircraft is used for Flight Validation Missions as well, the FMS must be capable of processing and displaying all relevant ARINC424 formats used on the new procedure under validation, the autopilot must be capable of following these signals

C.2.9. TCAS installed

C.2.10. If an EGPWS is installed, there must be means available to silence it on flight inspection missions in order to avoid nuisance alarms.

C.2.11 The environmental system of the aircraft must be capable of coping with the environmental conditions for all theatres of operation, both in terms of cooling and heating, in order to cater for requirements both of the crew as well as integrity requirements of the FIS Nav receivers.

C.2.12. The FIS must be integrated with fixed aerials, which are in turn subject to regular, on-board calibrations

C.2.13. For Flight Validation Missions, the use of Pre-Production-databases f or the relevant Flight Management System FMS is a must.

C.3 Crewing

The Contractor shall

C.3.1. define crew qualification and skill sets required for the intended mission profile.

C.3.2. have a minimum crew on Flight Inspection / Flight Validation missions: 2 pilots, or define applicable means of compliance

C.3.3. define status of Cabin Crew / Nav Aid Inspectors .

C.4. Quality Management System QMS

The Contractor shall

E.1.1. have a QMS in place, including a relevant Audit program and procedures how to act on findings of these audits.

D. Operations Manual

The Contractor shall

D1.1. have an OM in place as the central way to document and communicate the scope of work and how to accomplish it. The OM has to be workable under all of the Organisation's operational circumstances , and shall cover, as a minimum, but not limited to, the

- Organizational set-up
- Responsibilities and accountabilities
- Theaters of Operation
- Aircraft related subjects (Minimum Equipment List (MEL), navigation equipment, etc.)
- Limitations and Minima
- Crewing
- Operational Procedures, Normal and Abnormal
- All weather operations
- Flight and Rest Time Limitations
- Training
- Security

E. Crew Resource Management (CRM) / Team Resource Management (TRM) / Crew Coordination Concept (CCC)

The Contractor shall

E1.1. have a CRM / CCC in place. Its CRM should be holistic in the sense of a Total Resource Management (TRM) scheme, i.e. encompasses cabin crew and rest of organization as well.

F. Standard Operating Procedures (SOPs)

The Contractor shall

F1.1. define SOPs to describe how certain aspects of the scope of work are handled by whom, and at what time within the organisation.

F1.2. SOPs must be in line with other documents, like the OM, CCC, checklists, etc.

G. Checklists

The Contractor shall

G1.1. Develop mission-specific/operational environment checklists

G1.2. have the checklists to be in line with SOPs and other procedures laid down in the OM.

G1.4. ensure the Checklist actions are achievable under all expected flight operations and conditions

H. Training & Checking

As the importance of training in aviation in general, and in Flight Inspection in particular, cannot be overstated, the Contractor shall

H1.1. define training scheme for both initial as well as recurrent training and adhere to that scheme.

H1.2. develop and implement a training program commensurate with other organisation's documents, like OM, CCC, Checklists, etc., which does not only cover crew training, but all aspects of organisation's activities, like OPS, scheduling, etc.

H1.3. Contractors are to use suitably qualified simulators (either Full flight Simulators (FFS) or other Flight Training Devices (FTDs)) for flight training, both initial as well as recurrent.

I. Risk Mitigation Strategy

The Contractor shall

I1.1. Develop and implement a Risk Mitigation Strategy which encompasses all mission profiles and expected conditions

I1.2. identify the external circumstances of operation and associated risk