



# **OVERSEAS TERRITORIES AVIATION REQUIREMENTS (OTARs)**

**Part 173**

## **FLIGHT CHECKING ORGANISATION APPROVAL**

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## REVISIONS

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## **Subpart A — General**

### **173.1 Purpose**

- (a) The requirements of this Part cover flight calibration organisation relation to their organisation, equipment, maintenance and safety management.
- (b) These Requirements are not in themselves Law. Failure to comply may not constitute an offence. However, the Requirements repeat or reproduce many of the provisions of the Air Navigation (Overseas Territories) Order 2001 (as amended) (“the Order”). Therefore, failure to comply with these Requirements may:
  - (1) constitute a breach of the Order; and
  - (2) result in proceedings for breaches of the Order; or
  - (3) result in the refusal of an application for renewal of a certificate or licence; or
  - (4) result in action to suspend or revoke a certificate or licence.
- (c) The Order details the legal obligations governing the flight checking of air traffic services. The Order specifies these obligations in rather general terms, therefore there is a provision in Article 135 to the Order which requires the Governor to publish Requirements to augment, amplify and detail more precisely the manner in which these obligations shall be met. The Requirements are the means by which the applicant will be able to satisfy the Governor as to their fulfilment of their legal obligations in respect of the design, commissioning and operation of a flight calibration organisation.
- (d) The issue of a certificate, licence or approval indicates only that the holder is considered competent to secure the safe provision flight calibration service. The possession of such a document does not relieve the provider from the responsibility for compliance with the Order and any other legislation in force.

### **173.3 Use of English**

All documentation, written communications and data (electronic or otherwise) for submission to the Governor in support of an application for an approval shall be provided in English.

### **173.5 Laws, regulations and procedures**

Each holder of an approval shall take reasonable care to ensure that all persons employed, engaged, or contracted by the holder to perform flight calibration activities, are familiar with the appropriate sections of legislation, the Overseas Territories Aviation Requirements, any applicable conditions on the approval and the procedures specified in the approval holder’s Exposition.

### **173.7 Procedure compliance**

Each person performing duties in relation to an approval shall conform with the applicable procedures specified in the exposition of the approval holder which authorises the operation.

### **173.9 Power to inspect**

Each holder of an approval shall ensure that any person authorised by the Governor shall have access to any documentation relating to the flight calibration operation. The approval holder shall be responsible for ensuring that, if requested to do so by an authorised person, documentation is produced within a reasonable period of time.

### **173.11 Application for approval**

- (a) An applicant for a flight calibration service organisation approval shall apply to the Governor with:
  - (1) an exposition; and
  - (2) any required payment.
- (b) Unless the Governor is satisfied that the exposition contains adequate evidence that the organisation has been approved to conduct flight calibration in another State, the applicant shall:
  - (1) demonstrate position fixing accuracy using a process agreed by the Governor; and
  - (2) demonstrate overall system performance by making a trial commissioning inspection of a navigational aid using a process agreed by the Governor.
  - (3) Trial results shall be included in the exposition.
- (c) The Governor reserves the right to require a practical demonstration to provide evidence of compliance with this Part.

### **173.13 Privileges of an approval holder**

- (a) A flight calibration organisation approval may include any conditions that the Governor may consider appropriate.
- (b) The applicant shall submit any proposed changes to the flight inspection system, operation or organisation to the Governor for approval before further flight inspections are conducted.

## **173.15 Duration of approval**

- (a) The approval remains in force unless it is suspended or revoked.
- (b) The approval holder shall surrender an approval certificate that is suspended or revoked.

## **Subpart B — Approval Requirements**

### **173.51 Exposition**

The applicant shall provide the Governor with an exposition containing:

- (a) a policy statement signed by the person identified at paragraph 173.53(a)(1) attesting that:
  - (1) the exposition demonstrates compliance with this Part; and
  - (2) the organisation will comply with this Part at all times; and
- (b) the titles and names of the senior person or persons required under paragraphs 173.53; and
- (c) the duties and responsibilities of the senior person or persons in paragraph 173.53, including matters for which they have responsibility to deal directly with the Governor on behalf of the organisation; and
- (d) an organisational chart showing lines of responsibility between the persons specified in paragraph 173.53; and
- (e) details of the organisation's staffing structure including job descriptions and safety responsibilities; and
- (f) policy, procedures, evidence or references supporting the following requirements:
  - (1) paragraph 173.53 regarding the integrity of the organisation; and
  - (2) paragraph 173.55 regarding the technical requirements for the flight calibration system; and
  - (3) paragraph 173.57 regarding maintenance of the flight calibration system; and
  - (4) paragraph 173.59 regarding evidence as to meeting measurement uncertainty requirements; and
  - (5) paragraph 173.61 regarding flight calibration system aerials; and
  - (6) paragraph 173.63 regarding the suitability of the aircraft and aircraft operator for the purpose of flight calibration; and
  - (7) paragraph 173.65 regarding the use of aeronautical radio frequencies for the purpose of flight calibration; and
  - (8) paragraph 173.67 regarding the operational implementation of the flight calibration system; and
  - (9) paragraph 173.69 regarding the implementation of quality management procedures.

- (g) a description of the entire operation.

### **173.53 Organisation**

- (a) The applicant shall nominate:
  - (1) a senior person identified as the Accountable Manager who has the authority within the applicant's organisation to ensure:
    - (i) the organisation can be adequately financed and resourced; and
    - (ii) that safety is given the highest priority when assessing commercial, operational, environmental or social pressures; and
    - (iii) compliance is achieved and maintained with the requirements of this Part; and
    - (iv) a navigation aid inspector or other post is appointed with sufficient authority to be clearly accountable for the contents of flight inspection reports; and
  - (2) a senior person or persons who are responsible for ensuring that the applicant's organisation complies with the requirements of this Part. Such nominated person or persons shall be ultimately responsible to the Accountable Manager; and
  - (3) sufficient, competent, qualified and trained personnel.
- (b) Written records and procedures shall be established, to:
  - (1) assess the competence of those authorised personnel; and
  - (2) maintain the competence of those authorised personnel; and
  - (3) establish a means to provide those personnel with signed written evidence of the scope of their authorisation; and
  - (4) establish the job descriptions containing safety responsibilities.

### **173.55 General technical requirements**

- (a) The applicant shall provide the Governor with:
  - (1) evidence that the flight calibration equipment can measure the parameters required for the navigation aid being inspected; and
  - (2) functional and technical descriptions, technical specifications and manufacturer's type number for all major items of the flight calibration equipment; and
  - (3) functional and technical descriptions, technical specifications and manufacturer's type number for equipment used to calibrate the items referred in 173.55(a)(2); and

- (4) build state documentation for all measuring equipment; and
  - (5) the name of the design authority for all major items referred in 173.55(a)(2) and (3); and
  - (6) the location, characteristic and type of all fixed or temporary measurement aerials on the aircraft; and
  - (7) the procedures used for the calibration of the equipment referred in 173.55(a)(3); and
  - (8) details the function and support of all software and firmware used in the measurement system; and
- (b) The equipment referred to in paragraph 173.55(a)(2) shall not interfere with the aircraft systems or normal navigation and general avionics equipment.
  - (c) Identity transmissions should be verified throughout a flight calibration.
  - (d) The flight calibration system shall include an independent system that can continuously determine and record the horizontal position in space of a known reference point on the aircraft. The uncertainty of this position shall be no more than the uncertainty requirement for the parameter being measured.
  - (e) The applicant shall notify the Governor of all proposed equipment changes, modifications or change of aircraft.
  - (f) The flight calibration organisation shall comply with the guidance and recommendations given in ICAO Doc 8071, Manual on Testing of Radio Navigation Aids.

## **173.57 Maintenance**

The applicant shall provide to the Governor details of:

- (a) procedures for managing spares in relation to the flight calibration equipment; and
- (b) procedures for recording faults and taking subsequent action; and
- (c) procedures for planned maintenance of the flight calibration equipment.

## **173.59 Measurement uncertainty**

- (a) A minimum measurement uncertainty of 95% probability shall be achieved by each parameter to be measured by the equipment.
- (b) Uncertainty calculations shall be recorded in the exposition and shall account for all errors in the measurement and recording system and shall be combined using RSS (the square root of the sum of the squares).

- (c) Uncertainty calculations shall account for environmental conditions such as expected temperature and humidity range. Manufacturer's data shall be submitted if used as evidence of compliance.
- (d) When modifications are made which affect the uncertainty of measurements the applicant shall submit new calculations in the Exposition.

### **173.61 Aerials**

Any aerial used for the purpose of flight calibration shall be:

- (a) positioned so that it is not obscured from the navigation aid signal during all anticipated flying manoeuvres; and
- (b) positioned so that the distance between its phase centre and the reference point of the independent positioning system (see paragraph 173.55(d)) is accounted for when determining measurement uncertainty and crosswind limitations.
- (c) positioned so that propeller modulation is demonstrated to be reduced to an acceptably low level.

### **173.63 Aircraft and aircraft operator**

Aircraft used for the purpose of the flight calibration shall be:

- (a) capable of safely flying the flight calibration profile; and
- (b) operated under a certificate acceptable to the Governor; and
- (c) compatible with calibration equipment; and
- (d) adequately crewed (both flight crew and equipment engineer/operator) to conduct the calibration safely.

### **173.65 Use of radio**

The applicant, for the purpose of RTF used during trials, shall hold relevant approval and licences.

### **173.67 Operation flight calibration system**

The applicant shall provide the Governor with:

- (a) a list of navigation aids that can be calibrated by the flight calibration organisation in compliance with this Part; and
- (b) a sample flight inspection report compliant with Appendix A; and
- (c) a sample structure measurement for applicable navigation aids; and

- (d) a procedure to ensure communication with the navigation aid providing organisation of immediately notifiable deficiencies.
- (e) the flight calibration operating instructions for the inspector and flight crew including reference to:
  - (1) the flight profile to be used for individual measurements; and
  - (2) pre-flight calibration of measuring equipment; and
  - (3) siting of any necessary ground tracking or position fixing equipment; and
  - (4) operation of measuring equipment; and
  - (5) production of the flight inspection report ; and
  - (6) the production of records and graphs in compliance with Appendix B; and
  - (7) production of a certificate attesting the result of a flight calibration; and
  - (8) the method used to calculate results which are not output directly by the measuring equipment.

### **173.69 Quality procedures**

The applicant shall establish a quality management system that is acceptable to the Governor.

## **Appendix A – Flight Inspection Report**

All flight inspection results shall be documented to a report format agreed with the Governor. The minimum information to be provided on the report shall be:

- (a) station name and facility designation; and
- (b) category of operation; and
- (c) date of inspection; and
- (d) unique serial number of report; and
- (e) type of inspection; and
- (f) aircraft registration; and
- (g) manufacturer's type of system being inspected; and
- (h) names and functions of all personnel involved in the inspection; and
- (i) results of all measurements made; and
- (j) method of making each measurement; and
- (k) details of associated attachments (recordings, etc.); and
- (l) details of extra flights made necessary by system adjustments; and
- (m) an assessment by the aircraft captain on the navigational aid performance; and
- (n) comments by the navigation aid inspector operator in the navigation aid performance; and
- (o) details of any immediately notifiable deficiencies; and
- (p) statement of conformance/non-conformance; and
- (q) navigation aid inspector's signature; and
- (r) pilot's signature; and
- (s) signature of the individual who is legally responsible.

## **Appendix B – Records and Graphs**

- (a) If recordings or graphs are used to present results for the flight inspection report, the scales shall be chosen so that it can be determined if the measurement is within the uncertainty parameters.
- (b) The raw data from which the records and graphs are produced shall be retained and archived in a form where it can be re-processed if necessary.
- (c) Recordings shall be marked so that they can be correlated with the aircraft's position at the time of the measurement.
- (d) The minimum identification on each record and graph shall be:
  - (1) serial number; and
  - (2) date; and
  - (3) description of type of flight; and
  - (4) name of airport; and
  - (5) designation of facility being inspected.