



CIVIL AVIATION  
SAFETY AUTHORITY  
AUSTRALIA

# Advisory Circular

**AC 173-2(0)**

**MAY 2003**

## **INSTRUMENT FLIGHT PROCEDURE DESIGN APPROVAL of the APPOINTMENT of a CHIEF DESIGNER**

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### **1. REFERENCES**

- CASR Part 173 — Instrument Flight Procedure Design
- MOS Part 173 — Standards applicable to Instrument Flight Procedure Design

### **2. PURPOSE**

This AC provides guidance and information to applicants for approval of the appointment of a Chief Designer of an organisation holding a certificate under CASR Part 173.

### **3. STATUS OF THIS AC**

This is the first AC to be issued on this subject.

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*Advisory Circulars are intended to provide recommendations and guidance to illustrate a means but not necessarily the only means of complying with the Regulations, or to explain certain regulatory requirements by providing interpretative and explanatory material.*

*Where an AC is referred to in a 'Note' below the regulation, the AC remains as guidance material. ACs should always be read in conjunction with the referenced regulations*

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## 4. BACKGROUND

4.1 The holder of a procedure design certificate is required under CASR Part 173 to appoint a Chief Designer and that appointment must be approved by CASA.

4.2 This AC sets out the information that is required to enable CASA to consider an application for approval and the method CASA may use to assess an application.

## 5. APPLICATIONS

5.1. An application may be made by an instrument flight procedure design organisation that is the holder of a procedure design certificate, or has applied for a procedure design certificate.

5.2 The application, in writing, must include:

- The name of the instrument flight procedure design organisation
- The name of the person appointed as Chief Designer
- Details of the Chief Designer's relevant qualifications and experience.

5.3 The application must address all relevant requirements of CASR Part 173, and in particular should specifically detail the manner in which the certificate holder will ensure that the Chief Designer's functions and duties are performed.

## 6. APPROVAL PROCESS

6.1 CASA will consider an application for approval in two stages.

6.2 An initial assessment will be made of the written application. If it is determined from that assessment that the Chief Designer possesses appropriate qualifications and experience, CASA will proceed to the second stage, which will be an interview.

## 7. ASSESSMENT

CASA will assess the Chief Designer's qualifications & experience in the following areas:

<b>QUALIFICATIONS</b>	
Basic qualification	Evidence of completion of an approved PANS-OPS course must be provided.
Advanced training	Evidence of advanced training must be provided. (Refer MOS para 3.1.2.1 (c)). It is expected that a person appointed as Chief Designer will have completed a number of advanced or refresher courses after gaining the initial qualification.  Details of attendance and participation in relevant conferences including papers presented etc, should be included.

<b>RELEVANT EXPERIENCE:</b>	
Procedure design	<p>Details of the Chief Designer's procedure design experience should be detailed. The Chief Designer must demonstrate experience in the design of each type of procedure for which he/she will be responsible. Experience shall be assessed by CASA as sufficient for the Chief Designer to competently fulfil the duties and function of a Chief Designer. It is expected that the experience required for a Chief Designer to achieve competency would not normally be less than 2 years full-time experience in procedure design involving the design of a considerable number of individual procedures. The assessment of design experience relative to a particular type of procedure will take into account the number of approaches that an "experienced" designer is likely to design in the normal course of his/her duties. For example, the number of ILS designs that an "experienced" designer may have completed may be limited, but, taken in the context of the designer's overall experience, may be assessed as satisfactory. Similarly a designer may be "experienced" in new types of procedures that because of their recent development only a relatively small number of procedures have been designed.</p> <p>Design of procedures in other countries, and to other design criteria (e.g. TERPS), may be taken into account in the assessment of the Chief Designer's overall experience, but CASA must be satisfied that the Chief Designer possesses detailed knowledge and experience in PANS-OPS procedures and Australian design rules &amp; procedures.</p> <p>In the case of a Chief Designer who has extensive experience but limited recent experience CASA may take into consideration appropriate recent training or other measures that the Chief Designer has taken to ensure that he/she is fully conversant with current procedure design and has adequate recent "hands-on" design experience.</p>
Supervision & Management	<p>The role of Chief Designer involves accepting responsibility for the work of other persons, including designers, and the effective management of an organisation and design work. A Chief Designer must demonstrate design experience in a supervisory role and/or equivalent supervisory or management experience in a related industry.</p>

Relevant operational experience.	It is expected that a Chief Designer will possess experience in a relevant operational environment enabling them to apply design criteria with due regard to operational circumstances. Suitable experience will include experience as an instrument rated pilot, or navigator on IFR operations. In cases where the Chief Designer does not have such experience, evidence must be produced to satisfy CASA that equivalent other experience has been gained which enables the Chief Designer to properly fulfil all the duties of Chief Designer.
<b>KNOWLEDGE:</b>	
Note: The following criteria will normally be assessed during an interview.	
Current procedure design practices	A Chief Designer must demonstrate a high standard of detailed knowledge in respect of instrument flight procedure design.
Australian Operations	A Chief Designer must demonstrate a thorough knowledge of Australian operating rules & procedures as contained in the <i>Civil Aviation Act 1988</i> , CAR 1988, CASR 1998, AIP, and CAO.
CASR Part 173	The Chief Designer must demonstrate a thorough knowledge of CASR Part 173 – Instrument Flight Procedure Design, including the requirements for: <ul style="list-style-type: none"> <li>• Staff qualifications &amp; minimum experience</li> <li>• Supervision of staff</li> <li>• Recency</li> </ul>
PANS-OPS	Detailed knowledge in the principles and practice of design in accordance with the rules contained in ICAO Doc 8168 is required.
Navigation Systems	A Chief Designer must demonstrate a thorough understanding of the principles of operation of relevant ground and space-based navigation systems.

Company operating procedures.	<p>At interview the Chief Designer must demonstrate that he/she is fully conversant with the company operations manual. In general it is expected that except, in matters of detail, the Chief Designer can demonstrate this knowledge without reference to the operations manual.</p> <p>The Chief Designer must demonstrate detailed knowledge of all company operating procedures including:</p> <ul style="list-style-type: none"> <li>• Data management &amp; control</li> <li>• Verification of designs</li> <li>• Record keeping</li> <li>• Environmental requirements</li> <li>• Publishing standards</li> <li>• Validation requirements</li> <li>• Procedure maintenance</li> </ul>
Company safety management system	<p>A Chief Designer must demonstrate a high standard of knowledge of and a commitment to the principle of a Safety Management System.</p> <p>The Chief Designer must have a thorough knowledge of the company safety management system and be able to discuss action appropriate to typical safety management issues.</p>
Responsibilities as Chief Designer	<p>The Chief Designer must have a thorough understanding of the responsibilities of a Chief Designer. The assessment will include the ability of the Chief Designer to manage staff, including unqualified persons and support staff, and to conduct periodic assessment of staff competence.</p>

## 8. APPROVAL

**8.1** If CASA approves an appointment the applicant will be advised in writing and the Chief Designer will be issued a notice of approval of appointment.

**8.2** The notice of approval will contain:

- The name of the person appointed as Chief Designer
- The name of the organisation holding a procedure design certificate in respect of which the appointment is made
- Any conditions that CASA may impose

**8.3** The approval is not transferable.

**8.4** The approval will remain valid unless withdrawn by CASA, a person ceases to occupy the position of Chief Designer, or the Chief Designer ceases to be employed by the procedure design certificate holder specified in the notice of approval.

**8.5** An appointment as Chief Designer will normally apply in respect of a single instrument flight procedure design organisation. i.e. a person may not be the Chief Designer for more than one certificate holder.

## **9. REJECTION OF APPLICATION**

**9.1** CASA will notify the applicant in writing if an appointment is not approved. The advice will state the qualification, experience, or knowledge areas that have been assessed as unsatisfactory.

**9.2** An unsuccessful applicant may re-apply if additional evidence can be provided to rectify any deficiency in the original application.

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