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## ADVISORY CIRCULAR

<b>Subject:</b>	<b>Date:</b>	<b>AC Number:</b>	<b>Version:</b>
Application for Procedure Design Certificate	2016-09-01	172-01	1.0

**NOTE: THIS ADVISORY CIRCULAR IS PUBLISHED TO PROVIDE REGULATORY INFORMATION AND DESCRIBE ACCEPTABLE MEANS OF COMPLIANCE WITH THE GENERAL AUTHORITY OF CIVIL AVIATION REGULATIONS (GACAR).**

### CHAPTER 1 – BACKGROUND

#### 1.1 Purpose

This AC provides guidance and information to applicants for certification as an Instrument Flight Procedure Design organisation under GACAR Part 172.

The applicant for a certificate under GACAR Part 172 is required to supply sufficient information to GACA SS&AT to permit an application to be properly considered.

This AC sets out the information that will normally be expected to be provided in support of an application.

#### 1.2 Applicability

This Advisory Circular is applicable to all instrument flight procedure design organisations required to obtain and maintain a certificate under the provisions of GACAR Part 170 and Part 172.

#### 1.3 Cancellation

This is the first official version of this Advisory Circular and it cancels no other Advisory Circulars.

## **1.4 Related Regulatory Provisions**

GACAR Parts 1, 5, 7, 97, 170,172, 183 and 199.

## **1.5 Related Reading Material**

- (a) Advisory Circular AC172-02;
  - (b) ICAO Annexes 2, 4, 11 and 15;
  - (c) ICAO PANS-OPS Doc 8168 Volume II (Construction of Visual and Instrument Flight Procedures);
  - (d) ICAO Template Manual for Holding, Reversal and Racetrack Procedures, (Doc 9371);
  - (e) ICAO Required Navigation Performance Authorization Required Procedure Design Manual (Doc 9905)
  - (f) ICAO Collision Risk Manual (CRM) (Doc 9274);
  - (g) ICAO Quality Assurance Manual for Flight Procedure Design (Doc 9906):
    - (1)Volume 1 – Flight Procedure Design Quality Assurance System;
    - (2)Volume 2 – Flight Procedure Designer Training
    - (3)Volume 3 – Flight Procedure Design Software Validation;
    - (4)Volume 4 – Flight Procedures Design Construction (to be developed);
    - (5)Volume 5 – Validation of Instrument Flight Procedures; and
    - (6)Volume 6 – Flight Validation Pilot Training and Evaluation;
  - (h) ICAO Instrument Flight Procedures Construction Manual (Doc 9368);
  - (i) ICAO Continuous Descent Manual of Procedure (Doc 9931);
  - (j) ICAO Performance Based Navigation Manual (Doc 9613);
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(k) ICAO Manual on All Weather Operations (Doc 9365).

## **1.6 Definitions of Terms Used in this Advisory Circular**

Affected parties should refer to Subpart A of GACAR Part 1 for a full listing of defined terms used in the new GACAR and specifically those related to safety management. This Advisory Circular may introduce additional definitions to aid in a common understanding of the ideas presented in this document. In cases where the definitions in this document differ from an identical term defined in GACAR Part 1, the definition in GACAR Part 1 will prevail when interpreting regulatory requirements.

## **1.7 Approval**

This Advisory Circular has been approved for publication by the Assistant President, Safety, Security and Air Transport (SS&AT) Sector of the General Authority of Civil Aviation.

## CHAPTER 2 - APPROVAL AS AN INSTRUMENT FLIGHT PROCEDURE DESIGN ORGANISATION

### 2.1 Compliance with Regulations

2.1.1 The application must adequately address all relevant requirements of GACAR Part 170 and Part 172, and should specifically detail the manner in which the applicant will comply with those regulations.

### 2.2 Information to be Supplied

2.2.1 An application shall include:

- Applicant's name;
- Corporate structure and executive/senior management personnel;
- Place of business;
- Summary of relevant experience;
- Details of organisational structure;
- Experience and qualifications of key personnel

### 2.3 Financial Capacity

2.3.1 GACA SS&AT may ask an applicant to provide evidence as to the applicant's financial standing and financial capacity.

### 2.4 Insurance

2.4.1 An applicant must supply details of the liability insurance cover that the applicant has or intends to obtain. An applicant who does not have adequate liability insurance provision may be considered by GACA SS&AT as unlikely to be a viable commercial organisation,

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and therefore not an appropriate person to hold a certificate under GACAR Part 172.

## **2.5 Operations Manual**

2.5.1 A complete operations manual is to be submitted for approval in accordance with the requirements of GACAR Part 172.

## **2.6 Type of Procedure**

2.6.1 The application shall state the types of procedure(s) that the designer proposes to design.

2.6.2 Approval to design procedures of a particular type should be supported by evidence of adequate relevant design experience.

## **2.7 Environment**

2.7.1 The manner in which it is proposed to satisfy the requirements of the any environmental legislation in Saudi Arabia, including noise regulations, in regard to the design of procedures must be fully detailed.

2.7.2 It is acceptable to contract to another organisation for the provision of environmental analysis, but the applicant must provide full details of these arrangements and the procedures to be used by the contracted organisation.

## **2.8 Verification**

2.8.1 Standard operating procedures, including checklists, forms and record keeping procedures should be appropriately detailed in the operations manual.

## **2.9 Organisation**

2.9.1 The operations manual must contain details of the designer's organisational structure. Details of the duties, responsibilities, and authority of each relevant position in the organisation must be provided. The organisational structure should identify that positions are permanent, part-time, contracted, or casual.

## **2.10 Personnel**

2.10.1 The qualifications and experience of all design staff should be included. Where appropriate, or where personnel are not identified, job descriptions and/or selection criteria may be used to support the application.

## **2.11 Chief Designer**

2.11.1 An application will not be considered unless the applicant nominates a person as Chief Designer. The nominee must be able to satisfy the requirements for Chief Designer. See AC172-02 Approval of the Appointment of a Chief Designer for information/guidance on GACA SS&AT's assessment of these requirements. An application will be accepted prior to the approval of the Chief Designer, but a certificate will not be issued until the Chief Designer has been approved.

## **2.12 Resources**

2.12.1 An applicant must provide sufficient detail of accommodation, equipment and other resources that are available to the designer to demonstrate that adequate resources are available which will permit the designer to carry out design work.

## **2.13 Automated Design Systems**

2.13.1 Where a particular automated design software system (e.g., FPDAM) is intended to be used, applicants must provide details of the system(s), copies of relevant software licences and update contracts, evidence of software version management, system training and support and other relevant material.

## **2.14 Training and Checking Program**

2.14.1 An applicant shall demonstrate that a suitable training and checking program is contained in the operations manual, and that procedures are in place to effectively implement and monitor that program.

2.14.2 The program must ensure that staff proficiency is formally assessed at appropriate intervals, and that adequate training is provided to ensure knowledge and skills in current and new procedures. Procedures must provide for records to be kept of checks completed, the results achieved and any remedial action or additional training provided to address any deficiency.

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2.14.3 In the case of Chief Designers, suitable procedures shall be provided to ensure that the Chief Designer is able to maintain adequate skills and knowledge.

## **2.15 Safety Management System**

2.15.1 A safety management system is required as an integral part of the designer's operations. Guidance for the preparation of a safety management system is available in Advisory Circular AC005-01 Safety Management Systems(SMS).

## **2.16 Examples of Product**

2.16.1 An applicant shall provide for examination by GACA SS&AT at least two complete designs of each type of procedure that the applicant intends to design. Examples shall include full documentation, including data, maps, computation sheets and finished charts in the format required for publication.

2.16.2 Samples of designs may include designs carried out in the normal course of the designer's business at locations outside Saudi Arabia, provided those examples are representative of work by current staff, and are designed to PANS-OPS criteria.

2.16.3 Where examples of previously completed work are not available the applicant should consult with GACA SS&AT before preparing sample designs, to ensure that the proposed sample designs will be acceptable.

2.16.4 GACA SS&AT will assess product examples to determine that designs conform to ICAO PANS-OPS criteria and any GACAR regulatory requirements and that the designs are accurate and complete.

2.16.5 In assessing submitted examples GACA SS&AT may employ appropriate expertise from organisation outside GACA SS&AT.

2.16.6 Where deficiencies are found in submitted examples, GACA SS&AT may require further examples to be supplied.

## **2.17 Approval**

2.17.1 If GACA SS&AT approves an application, the applicant will be advised in writing.

2.17.2 The certificate is not transferable.

2.17.3 The certificate will remain valid unless it expires, or is withdrawn by the President.

2.17.4 A certificate holder wishing to extend the validity of their approval must apply to the President 90 days prior to the expiry of their existing certificate.

## 2.18 Rejection of Application

2.18.1 GACA SS&AT will notify the applicant in writing if an application is not approved. The advice will state the areas that have been assessed as unsatisfactory.

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