

DEVELOPMENT AND PREPARATION OF MANUALS

1.0 PURPOSE

This Advisory Circular (AC) is issued to provide general information and guidance material that may be used to design and develop manuals as required by the Civil Aviation Regulations (CARs). It also provides guidelines on the process required for reviewing, and acceptance or approval of the manuals.

2.0 REFERENCES.

2.1 Regulations 30, 31, 32, 41, 43, 45, 62 of the Civil Aviation (Air Operator Certification and Administration) Regulation, 2018 for operations manual, training programme, aircraft operating manual, performance planning manual, aircraft loading and handling manual, cabin crew member manual, maintenance control manual;

2.2 Regulation 27 of the Civil Aviation (Approved Maintenance Organisation) Regulations, 2018 for maintenance procedures manual; and

2.3 Regulation 15 and 5(4) of the (Approved Training Organisation) Regulations 2018 for training manual and procedures manual, quality manual.

3.0 GUIDANCE AND PROCEDURES

3.1 The Civil Aviation Regulations (CARs) referenced in 2 above require operators to prepare and keep current various manuals for the direction and guidance of flight and ground personnel conducting air transportation operations. Add maintenance personnel.

3.2 Distribution and Availability of Manuals

It is required that a complete manual (or set of manuals) is maintained at the Operators, AMO, or training organisation principal base of operations and to furnish a complete manual (or set of manuals) to the Authority. In addition, it is required that the operator or AMO makes available or furnish applicable parts of the manual (user manuals) to crewmembers, maintenance and ground personnel who conduct or support flight operations. The manual may be in conventional paper format or in another form that is convenient for the user. Each employee to whom the manual or a user manual is furnished

must keep it current. Each employee must have access to appropriate manuals or parts of manuals when performing assigned duties.

Note:!

A User Manual: Is a segment of an MCM, MPM, ATO or Operations Manual (OM) that provides instruction, policies, procedures, and guidance to a specific category of employee. Examples of user manuals that are commonly used in the aviation industry include among others:

- a) *Inspection procedures*
- b) *Maintenance procedures*
- c) *Mass and Balance*
- d) *Training*
- e) *The Quality Manual*

3.3 Human Factors Principles

The design of manuals should observe human factors principles. Some of the basic aspects requiring human factor optimization include:

- a) Written language, which involves not only vocabulary and grammar, but also the manner in which they are used;
- b) Typography, including the form of letters and printing and the layout, has a significant impact on the comprehension of the written material;
- c) The use of photograph, diagrams, charts or tables replacing long descriptive text helps comprehension and maintain interest. The use of color in illustrations reduces the discrimination workload and has a motivational effect;
- d) The working environment in which the document is going to be used has to be considered when print and page size are determined.

3.4 Review of Manuals

Manuals must be reviewed by the Quality Manager to ensure they contain adequate content and are in compliance with applicable regulations, safe operating practices, and the operator's Operations Specifications. .

3.5 Submission of the Manuals

For the initial approval copies of the manuals to be approved shall be submitted to the Authority for the cursory review and – Copies of the manuals in electronic or hard copy

- a) if found satisfactory the applicant will be advised in writing to submit two hard copies of each manual for the in-depth review;
- b) if found unsatisfactory the manuals will be returned with a cover letter indicating the shortcomings.

3.6 Initial Approval Review

In the initial approval review of the manuals, a comprehensive review shall be conducted by the Authority to verify that the manuals conform to the following format and style:

- a) **Format.** The manuals have been prepared and maintained in conventional paper format (book form) and soft copy if possible.
- b) **Introduction or Preface.** The first page of a manual requiring approval by the Authority shall contain a description introducing the philosophy, goals and a preface page containing a brief statement of the manual's purpose and intended users. The introduction or preface section contain a statement signed by the Accountable Manager, which emphasizes that the procedures and policies in the user manual are expected to be used by company personnel.
- c) **Revision Control.** The manuals are easy to revise and contain a revision control page or section from which the user can readily determine whether the manual is current. This page or section should follow the cover page. The control date of the most recent revision of each individual page must appear on each page. Complex operators should establish a bulletin system to bring temporary information or changes that should not be delayed by a formal revision process, to the attention of the user. The bulletin system should have a means of control that includes giving bulletins a limited life and systematically incorporating them into appropriate manuals in a timely manner. Users should be able to easily determine whether they possess all current bulletins. Need to review and revise as necessary
- d) **Table of Contents.** Each manual has a table of contents containing lists of major topics with their respective page numbers.
- e) **A Statement of Compliance.** A statement that indicates where in the manual each regulatory requirement for the manual subject has been compiled with.
- f) **References.** Manuals may include references to other manual material when it is necessary to clarify the intent of the text or when it is useful to the user for looking up specific subject matter. References should not be made to Advisory Circular (AC) as these sources are advisory. Operators should use caution when adapting the text of advisory documents into their manuals. AC text may not necessarily translate into a Regulation.
- g) **Definitions.** Significant terms used in manuals should be defined. Any acronym or abbreviation not in common use should also be defined.
- h) **Elements of Style.** Manuals should be composed in the style of general technical writing. This style should be clear, concise, and easy to understand.

3.7 Adequacy of Procedures

The manual procedures should be in compliance with the requirements of the Regulations, consistent with safe operating practices and based on sound rationale or demonstrated effectiveness. The following should be clearly demonstrated:

- a) **Objective.** The objective of a procedure must be stated clearly.
- b) **Logical Sequence.** Procedures are to flow in a logical step-by-step sequence rather than a narrative format. The most effective procedures are usually simple and each contains only the information necessary for accomplishing that procedure.
- c) **General Considerations.**
 - (i) A procedure must be an acceptable method for accomplishing and achieving the intended objective.
 - (ii) The individual responsible for each step of a procedure must be clearly identified.
 - (iii) The acceptable standards of performance for a procedure are to be stated if those standards are not commonly understood or clearly obvious.
 - (iv) Since a variety of personnel with differing degrees of expertise are involved in procedures, adequate information concerning the accomplishment of a procedure must be provided for the least experienced individual. A procedure may be described very briefly and concisely when the user is capable of achieving the objective without extensive direction or detail. When the user has limited training or experience, however, a procedure must be described in enough detail for the user to correctly accomplish it. When the user has limited access to other sources of information and guidance while performing a procedure, enough detail should be provided to make the user independent of other sources of information.
 - (v) When a form, checklist, or tool is necessary to accomplish a procedure, the location of that item must be indicated in the procedure.
 - (vi) Enough time should be available under normal circumstances for the user to accomplish a procedure. If sufficient time is not available to the user for accomplishing a procedure, either the procedure itself or the user's duties must be revised.

3.8 The Approval and Acceptance Process need to incorporate procedure for acceptance see AC-GEN001

The satisfactory manuals should be issued with an approval note by the Authority.

The approved manuals shall contain the following:

- a) Control sheets, shall have the Authority stamp with the phrase CAA Approved, the effective date of approval and signature on both copies.
- b) One copy of the approved manual will be returned to the operator with a notification letter stating that the material is approved. The letter should also contain a statement advising the operator to maintain, for its records, the signed control sheets with the approval annotation.

- c) Each approved manual shall have an approval note on its front page.

3.9 Amendments to the Approved Manuals

- a) The Authority will review all amendments to the manuals. The Authority will not limit this review to the amendments alone but also the impact of the changes on the overall manual system.
- b) Continuous review of the manuals by the operator is necessary because both the aviation environment and the operations are constantly changing.



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