



ADVISORY CIRCULAR AC 1-02 v3.1

Guide to the development of expositions and operations manuals

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Advisory circulars are intended to provide advice 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 informative, interpretative and explanatory material.

Advisory circulars should always be read in conjunction with the relevant regulations.

Audience

This advisory circular (AC) applies to:

- applicants for, and holders of, an authorisation under the *Civil Aviation Safety Regulations 1998* (CASR), when the Part requires a holder to have a compliant exposition, operations manual or documented practices and procedures
- personnel of an authorisation holder
- exposition and operations manual drafting service providers.

Purpose

This AC provides advice to all persons involved in the aviation industry on the requirement to have and maintain an exposition or operations manual. The intention is to translate the regulatory requirements of the CASR and applicable Manual of Standards into language that is easily understood and, where necessary, expand the information to ensure the intent of the legislation is clear.

The AC should be read in conjunction with other resources including published guidance material (GM) and acceptable means of compliance (AMC).

This version of the AC refers to operators administered under Parts 119 (air transport operators) and Part 138 (aerial work operators). The information in this AC is also relevant to other kinds of operators such as approved maintenance organisations, flight training operators, ReOC (remotely piloted aircraft operator's certificate) holders and air traffic management systems service providers. However, in some areas there may be differences in the terminology used in earlier published documents.

For further information

For further information, contact CASA's Flight Standards Branch (telephone 131 757).

Unless specified otherwise, all subregulations, regulations, Divisions, Subparts and Parts referenced in this AC are references to the *Civil Aviation Safety Regulations 1998* (CASR).

Status

This version of the AC is approved by the Branch Manager, Flight Standards.

Note: Changes made in the current version are annotated with change bars with the exception of Annex A - Checklist of headings, this separately provided document should be read in full.

Version	Date	Details
v3.1	May 2022	Added content to sections 3 and 5 that provides additional detail explaining the concept of an integrated operations manual/exposition. Amended Annex A and B (these are separately provided documents).
v3.0	December 2021	Addition of Annex A and B.
v2.0	June 2021	This new revision includes a thorough review and refinement of the initial AC.
v1.0	December 2020	Initial AC.

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Annex A - Checklist of headings

Annex B - CASR compliance matrices

1 Reference material

1.1 Acronyms

The acronyms and abbreviations used in this AC are listed in the table below.

Acronym	Description
AC	advisory circular
AMC	acceptable means of compliance
AOC	Air Operator's Certificate
CAR	<i>Civil Aviation Regulations 1988</i>
CASA	Civil Aviation Safety Authority
CASR	<i>Civil Aviation Safety Regulations 1998</i>
EASA	European Union Aviation Safety Agency
EFB	electronic flight bag
FAA	Federal Aviation Administration
ICAO	International Civil Aviation Organization
ISO	International Organization for Standardization
KOCD	key operational changes documents
NAA	national aviation authority
SAG	safety action group
SARPs	standards and recommended practices
SM	safety manager
SMS	safety management system
SOP	standard operating procedure
SRB	safety review board
UK CAA	United Kingdom Civil Aviation Authority

1.2 Definitions

Terms that have specific meaning within this AC are defined in the table below. Where definitions from the civil aviation legislation have been reproduced for ease of reference, these are identified by 'grey shading'. Should there be a discrepancy between a definition given in this AC and the civil aviation legislation, the definition in the legislation prevails.

Term	Definition
exposition	<ul style="list-style-type: none"> a. for an Australian air transport operator, means: <ul style="list-style-type: none"> i the set of documents approved by CASA under regulation

Term	Definition
	<ul style="list-style-type: none"> ii 119.075 in relation to the operator, and if the set of documents is changed under regulation 119.085, 119.095 or 119.105, or in accordance with the process mentioned in regulation 119.100—the set of documents as changed, or b. for an ASAO, means: <ul style="list-style-type: none"> i the set of documents approved by CASA under regulation 149.080 in relation to the ASAO, or ii if the set of documents is changed under regulation 149.115 or 149.120, or in accordance with the process mentioned in paragraph 149.340 (i)—the set of documents as changed, or iii for a balloon transport operator: iv the set of documents approved by CASA under regulation 131.085, or v if the set of documents is changed under regulation 131.095, 131.105 or 131.115—the set of documents as changed.
operations manual	<ul style="list-style-type: none"> a. for a limited category organisation—the manual mentioned in subregulation 262AN(2) of CAR for the organisation, or b. for an aerial work operator: <ul style="list-style-type: none"> i the set of documents approved by CASA under regulation 138.045 in relation to the operator, or ii if the set of documents is changed under regulation 138.060, 138.064 or 138.068, or the process mentioned in regulation 138.066—the set of documents as changed.

1.3 References

Legislation

Legislation is available on the Federal Register of Legislation website <https://www.legislation.gov.au/>

Document	Title
Part 119 of CASR	Australian air transport operators—certification and management
Part 138 of CASR	Aerial work operations
CASR Dictionary	See Volume 5 of the CASR.

Note: The CASR Dictionary consists of Part 1 and Part 2, both of which are found in Volume 5 of the CASR.

Other documents

International Civil Aviation Organization (ICAO) documents are available for purchase from <http://store1.icao.int/>

Document	Title
Annex 6 - Operation of Aircraft - Part I	International Commercial Air Transport - Aeroplanes

2 Introduction

- 2.1.1 This AC provides advice for aviation organisations developing or maintaining an exposition or operations manual when this is a requirement of the relevant provisions of the *Civil Aviation Safety Regulations 1998* (CASR).
- 2.1.2 The AC includes information on structuring an exposition or operations manual, document management, and how to develop operating procedures that are compliant with the applicable regulations. Organisations are not obliged to accept the information and have creative discretion in developing their exposition or operations manual, as long as it complies with CASR.
- 2.1.3 Organisations that have an exposition or operations manual in place can use this AC to refine their documentation, in particular to meet the requirements of CASR.
- 2.1.4 An exposition or operations manual contains procedures, instructions and guidance for use by operational personnel in the execution of their duties (for example, as outlined in paragraphs 119.205(1)(h) and 138.155(1)(h) of CASR). It should also contain any necessary information to ensure the safe conduct of aviation operations. As an exposition or operations manual is essentially a 'how to' guide for the personnel of an organisation, it is an integral part of the organisation's means of controlling and supervising flight operations.
- 2.1.5 The annexes to this AC provide a checklist of headings of potential manual/exposition topics and which regulations are relevant to those headings (Annex A) as well as compliance matrix templates for Parts 91, 119, 121, 133, 135 and 138 of CASR (Annex B). The annexes have been provided as aids to operators - to assist with the identification of topics that should be included and a resource for operators to check that they have covered all required topics.

3 Outline of concepts - expositions and operations manuals

3.1 Are expositions and operations manuals the same?

- 3.1.1 Fundamentally, the terms 'exposition' and 'operations manual' mean the same thing; that is, a means to describe how an organisation will comply with all applicable legislative requirements, and how they will manage the safety of their operations. This objective may be achieved with a single document, or a set of documents.
- 3.1.2 The terms exposition and operations manual apply to organisations that are required by the regulations to document how they manage their operations. For example, Part 119 (air transport operators), Part 145 (approved maintenance organisations) and Part 142 (certain flight training operators) require the organisation to have an exposition. Operations manuals are required by Part 138 (aerial work operators), Part 137 (aerial application operators), Part 139 (aerodrome operators) and Part 142 (certain other flight training operators).
- 3.1.3 An exposition may be a single document or a suite of manuals including, for example, an operations manual, training and checking manual, safety management systems (SMS) manual etc. Similarly, an operations manual may be a single document, or a suite of volumes or documents.
- 3.1.4 Where a provision of CASR (e.g. regulation 119.205 or regulation 138.155) must be addressed explicitly in the exposition or operations manual (as applicable), the following structure may be appropriate if an organisation elects to format an exposition or operations manual as a suite of documents:
- a 'principal document' containing required information common to all activities, such as governance and administrative matters
 - manuals that relate to specific aspects of the activities, and the various systems and procedures used when conducting the activities.
- 3.1.5 A principal document should reference the other manuals (or sections of manuals), stating that each are part of the exposition or operations manual. This method is likely to be the easiest for most existing organisations as existing manuals may be easily incorporated, often with only minor modifications required.
- 3.1.6 Where the terms 'exposition' or 'operations manual' appear in isolation in this AC, they should be taken as interchangeable (where appropriate). CASA does not mandate the use of a specific term, but it is strongly encouraged for consistency with the regulations.

3.2 What is an integrated operations manual/exposition?

- 3.2.1 The civil aviation legislation, both before and after the introduction of the new flight operations regulations on 2 December 2021, requires operators to keep their manuals up to date¹. This is normally achieved by operators using their change management

¹ For AOC holders, the requirement in section 28BD of the Civil Aviation Act 1988 to comply with the civil aviation legislation, when combined with the requirements to maintain an operations manual, exposition or

process, or a continuous improvement process (refer to section 5 of this AC for further information).

- 3.2.2 In the period before the commencement of the new flight operations regulations on 2 December 2021, CASA published generic documents that identified the key changes in the new regulations called the key operational changes documents (KOCD). The aviation industry was advised, via public communications and written guidance in AC 1-03, that as a temporary measure CASA would accept operators using these generic documents as amendments to their operations manuals or expositions.
- 3.2.3 Paragraphs 7.1.2, 7.1.3 and 7.1.4 of AC 1-03 stated that *integrated* operations manuals or expositions would be required to be submitted to CASA by 2 June 2022. After this date, an operator's exposition / operations manual will be reviewed as part of normal CASA surveillance activities. If operators are still using generic forms of amendment after 2 June 22 this may be interpreted by CASA that the operator is not meeting their obligations to keep their document suite up to date.
- 3.2.4 An *integrated* operations manual or exposition is an operator's document suite that does not use these generic forms of amendment.
- 3.2.5 An integrated operations manual or exposition can still have annexes/appendixes or have identified changes due to the new regulations advised by formal crew notices. These are reasonable methods of keeping documents up to date and enable operators to be responsive to change. However, none of those things should be in a generic form (i.e. not tailored to the operator) and operators should no longer be using the KOCD for anything other than a source of information regarding key changes that operators should review for applicability to their operations. The KOCD should not be used beyond 2 June 2022 as 'the amendment' to an operator's exposition or operations manual.

other manuals, means that operators need to update their procedures, practices and processes to maintain compliance with the civil aviation legislation. For an aerial work operator, a similar requirement is contained in paragraph 138.050(1)(a) of CASR, and for a Part 141 certificate holder, the requirement is in paragraph 141.070(a) of CASR.

4 System scalability

- 4.1.1 Scalability has several meanings depending on the context and the type of system or procedure to which it applies. In a general context, scalability is often associated with the ability to manage growth within a system.
- 4.1.2 In the context of CASR and preparing an exposition or operations manual, scalability means that the document needs to be appropriate for the size and complexity of the organisation, as well as the scope, nature and complexity of its operations.
- 4.1.3 The aviation industry is characterised by a diverse range of operating environments and activities; as such, no one procedure or system will be appropriate for all organisations. A properly scaled system or procedure is tailored to fit the needs of the organisation to function effectively and efficiently. Additionally, a system of appropriate scale will ensure that the organisation is likely to achieve its safety objectives and meet the requirements of the regulations applicable to the intended operations.
- 4.1.4 A key feature of the [CASA Regulatory Philosophy](#) is the use, where appropriate, of outcome-based regulations (as distinct from prescriptive regulations). Outcome-based regulations focus on the results we want from a regulation, instead of a specific process or action that must be followed. As a means for achieving compliance is not prescribed, organisations need to establish their own methods which could be one that is commonly used or a bespoke method developed by the operator.
- 4.1.5 For example, a very small-scale organisation may use a simple process for rostering personnel, whereas a large organisation with hundreds of personnel will, by necessity, use a much more complex process. When documented, the simple process may only require a few paragraphs, while description of the complex process will be extensive and may require supplementary documents. Another simple example of scalability is the method of communicating operational information. Small operators could achieve effective communications with a very simple system whereas a large complex operation would require a much more sophisticated system to ensure information is distributed effectively across its operational network. However large or small, the description of each process, relative to the organisation's size, must be capable of demonstrating consistent compliance with the relevant regulations.
- 4.1.6 When developing an exposition or operations manual and considering what constitutes an appropriate scale, it is worthwhile considering elements such as:
- size of the organisation and its workforce
 - organisational structure
 - nature and complexity of the operations
 - variety of operations being conducted
 - number of passengers / aircraft
 - size / type of aircraft
 - nature and number of sites
 - resources required / available
 - interfaces with stakeholders including staff, external organisations, ground handlers, maintenance providers, and aerodrome operators.

- 4.1.7 All these matters affect the safety risk of an operation, which is ultimately what the exposition or manual will be seeking to manage.
- 4.1.8 In relation to resourcing, an organisation may consider analysing its activities to determine the right level of resources required for each activity. This should include reviewing the organisational structure, and the assigned responsibilities and accountabilities of the personnel.
- 4.1.9 Larger, more complex organisations often come with more multifaceted interactions between systems or stakeholders. An organisation is also responsible for managing and monitoring the interfaces between different systems and stakeholders to ensure the provision of their services and products achieves a desired safety outcome. For example, outputs from an SMS might need to be applied in a training and checking system. Formal agreements are an effective way to accomplish this when external organisations are involved, as the interfaces and associated responsibilities can be clearly defined. Where such agreements are in place, the impacts of any changes should be communicated to the relevant organisation within an appropriate timeframe and managed in accordance with the organisation's change management plan. This will ensure not only that the interfaces are managed effectively, but that they also remain current and relevant and the desired safety outcomes arising from the SMS are achieved.

5 Creating an exposition or operations manual

5.1 Introduction

- 5.1.1 When creating an exposition, organisations are required to think about how an operation will be conducted safely and describe the procedures for personnel to follow. It is essentially a 'how to' manual.
- 5.1.2 The exposition should set out procedures that enable operational staff to comply with the legislative and the organisation's requirements applicable to its operations. The organisation should identify and list the legislative requirements that apply to it and its personnel. Organisations may choose to include information from other publications, but simple reproduction or reference to legislative material will not normally provide sufficient clarity as to how the requirement is to be met. This is especially true where the rule is expressed in outcome terms. In this respect, the organisation must consider how best to develop information, procedures, and instructions to include in its exposition. For further guidance on developing procedures and instructions, refer to Section 6 of this AC.
- 5.1.3 Depending on the scope and frequency of change in an operator's operations, expositions are (normally) , a constantly evolving document due to continuous improvement. An operator document suite can use various methods of amendment including temporary crew notices (however so named) to amend its manuals. However, these things are specific operator documents that must be customised/tailored to the specifics of the operator. In all cases, the operator documents should make it clear how that specific operator conducts its aviation operations.
- 5.1.4 An organisation may also include a greater range of information in their exposition or operations manual, specific to their operations, than is required by the CASRs.
- 5.1.5 Generally, the same information or procedures should not have to be repeated in different sections of the exposition. Unless a good reason exists, internal references ('signposting') should suffice, as they should with large amounts of material in other, frequently updated, publications (e.g. instrument approach plates). Any items from the subject lists inserted in a different section of the exposition should be referenced in the suggested section and kept up-to-date.

5.2 Organisations that require an exposition or operations manual for multiple CASR Parts

- 5.2.1 Some organisations have requirements for expositions or operations manuals under multiple CASR Parts. For example, an organisation that conducts both passenger air transport (Part 121, 133 or 135) and aerial work (Part 138) will hold both an AOC and a certificate. Other activities could be undertaken as a Part 141 or 142 training organisation.
- 5.2.2 To avoid duplication or issues with consistency when amendments are made, it is recommended that multi-Part organisations consider amalgamating their expositions and/or operations manuals.

5.2.3 Many regulations across the different CASR Parts, such as those relating to key personnel, are very similar (if not identical). With this in mind, an exposition or operations manual would be much more user-friendly if entries addressing such regulations were not duplicated. If, however, an organisation chooses to consolidate such entries, they must ensure that all applicable requirements of the different CASR Parts are met.

5.3 Format

5.3.1 Format refers to matters, such as:

- mode of publishing (paper, electronic or both)
- page size
- layout, and
- font (size and style).

5.3.2 Each of these matters can affect document readability and usability, and when deciding on an appropriate format, an organisation should consider factors, such as:

- organisation size
- structure of the organisation
- operational activities
- work environments, and
- document control requirements (including ease of amendment).

5.3.3 For example, documents that will be used routinely in poorly lit conditions may require a larger font size, greater line spacing and enhanced colour contrast to aid readability.

5.3.4 In selecting a suitable format for an exposition or operations manual, the main criteria are: that the document serves the intended purpose, in addition to being easily used and understood. For volumes in paper form that are used in an aircraft, the volume size should allow easy-use on the flight deck, in the cockpit or the cabin. The quality of the paper (as applicable) and of the printing or reproduction of the text and illustrations should be such that the material is readable under all operational conditions.

5.3.5 The exposition or operations manual should be in a format that is easily amendable (e.g. loose-leaf pages in a ring binder or, preferably, electronic). Electronic documents offer a wide variety of presentation formats and provide operational crews with easier access to information.

5.4 Structure

5.4.1 The differences between an exposition and an operations manual (i.e. the operational contexts associated with each term) have been discussed in Section 3 of this AC. As stated, there are no mandatory naming conventions or requirements for structuring an exposition or operations manual.

5.4.2 Determining the right structure for an exposition or operations manual is the key to creating a logical and user-friendly document. The structure should reflect the

information needs of the primary users and enable efficient navigation to that information.

- 5.4.3 The design process may be aided by using a top-down methodology, beginning with a determination of the number of volumes required based on a logical grouping of information. The size and complexity of the organisation may be a factor in determining whether the whole document can be accommodated in one volume, or whether it is better broken down into several volumes. Each volume may then be divided, for example, into parts, sections, chapters etc.
- 5.4.4 A principal document (refer to Section 3 of this AC) should include a description of the document suite structure, with identification of each subsidiary document and its amendment status, as well as a comprehensive table of contents for the entire suite.
- 5.4.5 Ideally, each volume is self-contained in that where it addresses a particular matter; the matter is covered in its entirety within that volume. When determining the required number of volumes, the aim should be to have as few volumes as possible while not allowing any one volume to become so large that it would be unwieldy in use.
- 5.4.6 For example, all performance information should be available in one volume. If this is not possible, for example, when the aircraft performance volume is further divided into volumes for different regions of the world, the individual performance volumes must be logically numbered. Therefore, if the aircraft performance volume were Volume 4 of the exposition and it comprised several separate volumes, they would be numbered Volume 4-1, Volume 4-2, and so on.
- 5.4.7 It is good practice to keep the 'depth' of the content structure to three, as illustrated in this AC (e.g. 5.4.7 for this paragraph). Extending the depth beyond this will make a document more difficult to read. If an organisation has a number of different aircraft types, it is common practice to differentiate the volumes of the exposition or operations manual that are specific to a particular aircraft type, and to identify those volumes that are general in their application. Some organisations achieve this by colour-coding the volumes.
- 5.4.8 For example, all general volumes of the exposition or operations manual, such as policy and administration, could have red covers, while volumes specific to a particular aircraft type (e.g. the Cessna 172) could have yellow covers. Within each fleet, the volume numbering should be similar so that Volume 4 for all aircraft type volumes will be the performance volume.

5.5 Contents and elements of an exposition or operations manual

- 5.5.1 A description of the documents that constitute the complete exposition or operations manual suite should be included in the first volume or manual – Policy and Procedures (however titled). There should be a table of contents at the beginning of each volume and for each section or chapter. The use of appendices and annexes should be included as required in suitable locations within the exposition or operations manual, keeping in mind the need for usability and readability.
- 5.5.2 Expositions or operations manuals, as applicable, are required to include matters relating to governance, organisational structure, administration, personnel duties,

responsibilities and accountabilities. These organisational elements must offer a level of detail about supervision and control that is satisfactory to CASA, and sufficient for its personnel to use as a reference to support normal and abnormal operations.

5.6 Compliance

- 5.6.1 Proactively and consistently identifying, tracking, monitoring, and organising compliance with regulatory requirements will greatly assist an organisation to identify and address any arising issues. It will also improve the ability to update relevant sections of the exposition or operations manual where required.
- 5.6.2 A compliance matrix maps any requirements to the location in a document containing the associated content. The compliance matrix can be attached to a document (e.g. the principal document) as an appendix.
- 5.6.3 Including regulatory references in the body of the text of an exposition or operations manual will further improve tracking and tracing capability. This could be done by including the reference in the heading (between brackets). A simple word search for the reference is, then, all that is needed to find (and review) the associated content. Consider adding hyperlinks to references in electronic documents for easy access and use referencing to assist the user navigating throughout the document.

6 Policies, processes and procedures

6.1 Introduction

- 6.1.1 A higher degree of safety can be achieved when an organisation applies appropriate design techniques to its processes, particularly safety-critical processes. When designed well and clearly documented, processes provide both an organisation's management and CASA with a better level of confidence that company personnel know precisely what is required of them as they perform their duties and responsibilities.
- 6.1.2 The design of an organisation's means of regulatory compliance should be based on a hierarchy of policy, process and procedure, with policy developed first, followed in turn by process and procedure.

6.2 Policies – the standards

- 6.2.1.1 Policies set the strategic direction of an organisation and establish the standards to which the organisation intends to perform its functions. Whatever standard is decided, documentation of each process should commence with a policy statement explaining the purpose of, and standard relevant to, the process. Policy should not give direction on how the policy is to be executed. How the objectives of a policy are to be met is the domain of process and procedure.
- 6.2.2 While in a regulated environment the minimum standards are set by the regulator, an organisation may elect to set a policy to meet a higher standard. Reasons that an organisation may decide to operate to a higher standard include professional reputation, contractual obligation, or competition. For example, 'Compliance will exceed, to the following extent, the standards prescribed by the MOS'. Another example is that an organisation may stipulate that, in addition to their mandatory responsibilities, the chief executive officer is to hold additional responsibilities (specified in the policy statement).

6.3 Processes

- 6.3.1 The International Organization for Standardization (ISO)² defines a process as a 'set of interrelated or interacting activities that use inputs to deliver an intended result.' Practically, a process sets out what to do – but not how to do it.
- 6.3.2 For example, compliance with the fatigue management rules might require the design of output processes for duty time record keeping and monitoring, as well as crew scheduling. Descriptions of each process and the desired outcomes should be documented in the exposition or operations manual, as applicable.
- 6.3.3 The following steps apply to developing a process:
- Policy: Identify the organisational and regulatory intent and standards. Determine whether higher standards are appropriate.

² ISO 9001:2015

- Purpose: Define the intended outcome(s) of the process that will meet, or contribute to meeting, the policy objective.
- Scope: Define the extent or limits of the process.
- Design: Taking into account factors such as available resources, determine how the process outcome is to be achieved and the steps required. Planning may be aided by working backwards, or 'reverse engineering' from the endpoint. List the steps, and assign responsibility for each step. Check for continuity and compatibility between steps.
- Responsibility: Nominate the person responsible for managing the overall process.
- References: Identify any regulatory requirements related to the process (e.g. specific provisions of CASR or relevant MOS) and include references to other relevant documents or manuals.
- Records: Identify any records or forms that need to be completed (e.g. journey log).

6.4 Procedures

- 6.4.1 Procedures and associated work instructions explain the sequential tasks that personnel are required to perform to achieve the desired outcome of a process. Procedures tend to be narrow in focus and describe the how, when, what and who of a process.
- 6.4.2 A well-structured procedure typically starts with an action. Depending on the target audience and purpose, procedures can range from verbal instructions to informal work instructions, to visual workflows, to formal documents.
- 6.4.3 Effective procedures are written in such a way that any suitably qualified user can follow the instructions to complete the tasks. Poorly designed procedures are often a factor in safety investigations when 'violation of procedures' is detected. A measure of an effectively written procedure is when each employee follows the procedure and accomplishes the task in the same way.
- 6.4.4 Care should be taken when writing instructions to identify, by name or position title, those whose duty it is to carry out the instructions. The instructions should also clearly indicate exactly what is required, how it is to be achieved, and when. Any limitations and conditions associated with the procedure should also be specified (e.g. necessary qualifications). Although the use of content from external sources may be warranted in some circumstances, reproduction or paraphrasing of legislative material will not normally satisfy the intent of an exposition or operations manual.

6.5 Differences between must/should/may/shall

- 6.5.1 Legislation and supporting material make use of the terms *must*, *should*, *may* and *shall*. Similarly, in expositions and operations manuals, the words should have a clearly defined meaning to avoid ambiguity. Examples are:
- *must* indicates that compliance is mandatory
 - *should* indicates that compliance is recommended, and
 - *may* indicates something that is permitted, but not required.

- 6.5.2 The word *shall* has the same meaning as *must* (especially in legal, regulatory and technical texts), but is in limited use in the current Australian context.

6.6 Prescriptive procedures

- 6.6.1 Some regulatory requirements for the content of an exposition or operations manual are prescriptive in nature and do not require an elaborate process of design such as that outlined below. Such content still requires the following to be included:

- What needs to be done?
- Who is the person or what is the position responsible for doing this?
- When or how often does this need to be done?
- How does the person need to do this? Are there any specific requirements?
- What is the process for oversight that this procedure has been completed?

- 6.6.2 For example, consider the regulatory requirement for the availability of checklists (regulations 121.070, 133.040, 135.050 and 138.060). These regulations are prescriptive in nature. The exposition or operations manual could state:

It is the responsibility of the head of (flight) operations to ensure that a checklist is available to each crew member before each flight. This checklist must include normal, abnormal and emergency procedures for the relevant aircraft.

The head of (flight) operations must conduct, or delegate, a check of all aircraft every month to confirm that a checklist is available. Results of this check must be recorded in XYZ reporting program.

Any crew member not able to conduct a flight due to a checklist not being available should contact the head of (flight) operations or their delegate immediately to obtain a checklist prior to conducting the flight.

6.7 Establishing and developing procedures

- 6.7.1 ISO defines the elements of establishing a procedure as follows:

- Purpose: Purpose for procedure (this is usually derived from the overarching policy).
- Scope: The extent or limits of the procedure.
- Responsibility: Identifies the person responsible for the procedure.
- References: References to other documents or manuals required to undertake the procedure.
- Records: Identifies any records or forms that need to be completed (e.g. journey log).
- Procedure: Explanation or instructions on how to carry out the task(s) necessary to meet the objective of the procedure.

- 6.7.2 Questions to ask when developing a procedure are:

- What is the procedure trying to achieve?
- Who is the target population?
- When should the procedure be sequenced?

- Where will the procedure be carried out?
- How will the procedure be executed?
- Why is the procedure required?

6.7.3 The designer of the to-be-written procedure must list all the procedure's objectives. For example:

- Many organisations' standard operating procedures (SOPs) require a call to be made 1,000 feet before assigned altitude. This may be in the context of a multi-crew or single pilot operation. The purpose of this call is to increase crew awareness prior to an event i.e. levelling-off. If not conducted properly, an adverse event may follow i.e. altitude deviation. The most common call is 'one thousand to go'.
- The objective of this task is not just to level off, but to level off at an assigned altitude. Consideration must be given to both requirements.
- To satisfy both requirements, some organisations have developed a procedure in which the pilot flying will verbalise when leaving the altitude 1,000 feet prior to the assigned altitude e.g. 'six thousand for seven thousand'.

6.7.4 Tasks require time, attention and cognitive resources, and therefore contribute to overall workload. Where possible, the designer should distribute the phases of tasks to minimise workload.

6.7.5 An important step is to interview representatives from each organisational unit that will have a role in the process. Have them work together to identify each procedural step required to accomplish the process.

6.7.6 In the context of expositions and operations manuals, procedures are often presented in the form of work instructions. A process for developing work instructions may consist of the following steps:

- State the title and objective of the procedure. For example:
 - o Scheduling work times
 - o The objective of the procedure is to standardise production of a weekly schedule of attendance. The procedure is part of the process for compliance with work time limitations under CASR.
- Identify the scope of the procedure, determine any limitations or conditions, and define specialist terms.
- In point form, list each step in the procedure.
- Expand each point into a concise narrative of instruction including any limitations or conditions. Adjust the narrative to ensure each step is a logical progression. Provide examples or illustrations to assist comprehension.
- Assign a person by name or title who is responsible for completing each step or set of steps.
- Identify resources required.
- If possible, provide an example of the intended outcome.
- Review to ensure the instructions are logical and unambiguous.
- Obtain management approval.

- 6.7.7 Instructions are best written in the form of a 'command' using words such as 'is to' or 'must' and should be addressed to the name or position title of the person assigned the duty of carrying out the procedure. Avoid the use of 'may' or 'should', or words that imply an option. Refer to subsection 6.5 of this AC for further information.
- 6.7.8 To minimise variability in outcome(s), each procedure should be examined to identify areas vulnerable to deviation. Such vulnerabilities may be controlled through the use of procedural limitations, conditions, checklists, sign-offs, supervisory checks and, most importantly, through concise and unambiguous writing of instructions. The use of controls is explored further in subsection 6.8 of this AC.
- 6.7.9 Procedures and associated instructions should be thoroughly checked, tested and proof-read for flaws and to ensure that users can follow the instructions to consistently accomplish the task(s) to the standard required by management. Will the procedure and instructions stand up to challenge? Management is responsible for verifying that all processes and procedures are unambiguously communicated to the target audience. Procedural changes should only occur through an approved change management system.

6.8 Controls

- 6.8.1 Since human beings are susceptible to introducing variability or error into processes and procedures, it is important to look carefully at procedures to identify any areas where the person performing a task could deviate from the official procedures. Inserting and varying tasks in the procedure should either reduce the likelihood of an error, or mitigate the severity of its effect. In doing so, the appropriate controls are embedded in the procedures to ensure the desired outcome is produced.
- 6.8.2 Controls are parts of the system, including hardware, software, special procedures or checklists, and supervisory practices designed to keep a process on track to achieve the intended results.
- 6.8.3 In systems that depend on humans to conduct and complete tasks, many controls are procedural, and it is sometimes difficult to distinguish a procedure from a control. Controls should not be written as stand-alone paragraphs for each process contained in the exposition or operations manual in an attempt to capture any variability or errors. Controls are not tacked onto procedures; rather, they are parts of a procedure aimed at ensuring a reliable and consistent outcome.
- 6.8.4 One approach is to consider whether the work can be physically completed without the control. For example, maintenance task cards and sign-off procedures are not necessary to physically complete work, but they do ensure a desired result. Changing a brake *may* be successfully done by an experienced mechanic; however, a task card reliably *ensures* proper removal and re-installation of the brake assembly.

6.9 Interfaces

- 6.9.1 To further ensure consistency and avoid incompatible relationships between processes, organisations may choose to identify and document the interfacial relationships that exist within and between their processes. Much of this work is completed during the

process design stage, when each participant with a role in executing the process is identified. Many developers have successfully documented these relationships using a grid matrix, rather than having a stand-alone paragraph titled 'Interfaces' for each process documented in their exposition or operations manual.

- 6.9.2 By documenting all of the interfacial relationships in a grid matrix, the interfaces can be viewed in a single location. This matrix can then be incorporated into the change management discussion of exposition or operations manual.

6.10 Implementing procedures

- 6.10.1 It is important that, after a procedure has been developed, key personnel review the suitability of the procedure. Such a review may include an actual or simulated trial of the procedure. Aircraft simulators are a suitable means for assessing the effectiveness of a flight crew procedure (noting that simulators are not available for all aircraft).
- 6.10.2 An organisation's management should ensure that all processes and associated procedures are unambiguously documented and clearly communicated to the target audience. Procedural changes should only occur through an approved change management system (refer to subsection 7.3 of this AC and Multi-Part AC 119-07 and 138-03 - Management of change for aviation organisations).

6.11 Quality assurance

- 6.11.1 Where applicable, the final step is to design process measurements, or audits, that will show how well the process is actually working. Process measurements allow an organisation to determine whether its safety-critical processes are being followed by personnel, and if they are producing the desired result. They also allow the organisation to identify, and proactively take corrective actions on, poorly performing processes.
- 6.11.2 Process measurements are normally the domain of an organisation's safety manager (and safety department, in larger organisations). Having an SMS is a regulatory requirement of the new flight operations regulations from 2 December 2021, and audits (as part of safety assurance) are one of the cornerstones in a safety management system. Effective process measurement audit tools are comprehensive, allow for easy tracking, and provide information for managers to use so as to improve the reliability of processes and procedures.
- 6.11.3 Simply put, if an organisation does not have a documented methodology for auditing their processes, including forms to record observations, they cannot meet the process measurement requirements. In addition, the organisation must use information gained from these audits to improve their processes. In the absence of such auditing tools, the organisation has no way of knowing whether its processes are being followed or they are producing the desired result(s). The consequence is that the company can have no structured method for improving its processes.

7 Document control

7.1 Introduction

7.1.1 Document control addresses the entire life cycle of operationally-critical documents, whether they are paper-based or electronic, and provides a governance function that is responsible for developing, implementing and maintaining an organisation's document management and control environment, providing assurance that:

- controlled documents contain the correct information and are fit for purpose
- controlled document users have access to the correct information
- controlled document owners are held accountable for the creation and review of documents and their content
- standardised processes for numbering, storage, retrieval and disposal of controlled documents is applied
- publishing controls, including accessibility standards, are correctly applied.

7.1.2 To achieve these objectives, the following processes should occur:

- retention of master copy
- examination and approval prior to issue
- review and revision
- page numbering and identification of revision status
- retention of revisions for historical purposes
- identification and retention of source materials for historical purposes
- distribution to appropriate operational personnel
- identification and updating of documents of external origin
- disposal of obsolete documents
- definition of policy for publishing standards and controls.

7.2 Responsibility

7.2.1 Key personnel who are accountable for the content of a document are generally described as the document owners. Document owners should ensure that the document is:

- fit for purpose and suitable for publication
- written for the appropriate audience
- aligned with the organisation's strategic objectives
- compliant with policies, standards and legal requirements (as applicable).

7.3 Making changes

7.3.1 Changes made to an exposition or operations manual can be classified as significant or non-significant changes. To ensure that all changes are made appropriately, refer to Multi-Part AC 119-07 and 138-03 - Management of change for aviation organisations.

- 7.3.2 Changes to an exposition or operations manual should be approved by the responsible key personnel. Approval should be subject to verification that the proposed changes are correct and appropriate. The responsibility extends to checking amendments issued by an aircraft manufacturer for aircraft operating manuals, or amendments issued for the route guide when purchased from a commercial agency.
- 7.3.3 In the case of changes that originate within the organisation, the responsible key personnel should first confirm that the proposed changes are necessary, and then activate the organisation's change management process. In most cases, the amendment of an exposition or operations manual will be issued through normal channels to all stakeholders. This task may be delegated to another person or business unit that reports to the responsible manager.
- 7.3.4 When change is urgent, as with time-critical information, a notice to the flight crew and to other impacted operational personnel may be issued. The notice should be replaced as soon as possible by a change to the exposition or operations manual incorporating the information. All changes must be provided to CASA and, where required, approval obtained³.
- 7.3.5 Changes to an exposition or operations manual should be easily identifiable, for example, by use of a vertical amendment line or similar marking.
- 7.3.6 Changes to the exposition or operations manual should be produced as new or replacement pages. Handwritten changes are generally not acceptable. The new or replacement pages should include a page identification number and a date of issue. A letter or cover sheet should be used to identify the reason for the change. This is particularly necessary when an amendment is made to any safety-critical information.
- 7.3.7 For hard-copy expositions, changes should include instructions for inserting the change and for recording insertion of the change. The signature, or an alternative method of identifying approval, of key personnel responsible for approving the change should also be included. A revision to the list of effective pages must be included with any change to an exposition or operations manual. Alternatively, some organisations may choose to re-publish the entire exposition or operations manual (this is particularly common when they are entirely electronic). This is acceptable practice; however, the changes must still be readily identifiable.
- 7.3.8 All changes must be issued⁴ to all personnel required to use those parts of the exposition or operations manual in carrying out their duties.
- 7.3.9 An organisation's change management process should ensure that records of the distribution of exposition or operations manual volumes to aircraft libraries, operational offices and individual personnel are kept.
- 7.3.10 An organisation should develop a process to manage any consequential effects of changes on other parts of the exposition or operations manual. For example, a change to the Policy and Procedures volume may also require changes to the Aircraft Operations volume or the Aerodrome and Route Guide volume.

³ Paragraph 119.205 (1) (m) of CASR

⁴ For example, regulation 119.215 of CASR

- 7.3.11 Users of the exposition or operations manual should be encouraged to make comments and offer suggestions for improving the contents, including comments on the general presentation of information. In particular, when errors in operational information are found, reports should be made in accordance with the change.