



Advisory Circular

AC 119-270(0)

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SAFETY MANAGEMENT SYSTEMS

CONTENTS

1. References	2	15. Risk management procedures and identification of safety improvements	11
2. Purpose	2	16. Internal communication and consultation procedures	12
3. Status of this AC	2	17. Document control procedures and document control	13
4. Definitions	2	18. Record control procedures	13
5. Introduction	2	19. Internal audit	14
6. General	3	20. Auditors for internal audits	14
7. Safety management system	4	21. Accident and incident recording, reporting and investigation scheme	15
8. Safety policy	5	22. Remedial, investigative and corrective action	15
9. Safety objectives	5	23. Emergency response procedures	15
10. Personnel – Documentation of roles, responsibilities and authorities	5	24. Documentation of processes and change management	15
11. Management reviews of safety management system	5	25. Handling and storage procedures	16
12. Safety management system improvement and preventative action	6	26. Measuring equipment and measuring equipment calibration	16
13. Safety practises	7		
14. Safety management system training	11		

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.

1. REFERENCES

- Guidance material for the establishment of a safety management system can be found in ICAO Document 9422 — AN/923, *Accident Prevention Manual* and ICAO Document 9376 — AN/914 *Preparation of an Operations Manual*.
- An operator's guide to building a safety program located at the CASA web site at: <http://www.casa.gov.au/avreg/business/safemang.htm>
- CAA(UK) CAP 712 safety management systems for commercial air transport operations located at the UK CAA web site at: http://www.srg.caa.co.uk/publications/cap712_sms_for_commercial_air_transport_operations.pdf
- Transport Canada TP 13739 safety management systems located at the Transport Canada web site at: http://www.tc.gc.ca/aviation/syssafe/tp13739/pdf/sms_e.pdf

2. PURPOSE

2.1 This Advisory Circular (AC) provides general principles and practical guidance in complying with the requirements for a Safety Management System as required by Subpart E of CASR Part 119. This AC should be read in conjunction with Subpart E. Readers who are unfamiliar with safety management system concepts should first read *An operator's guide to building a safety program* as referenced in 1. above."

2.2 This AC builds on earlier work by CASA in the management of safety by offering practical guidance material for air transport operations to assist with the development of effective systems for managing safety.

3. STATUS OF THIS AC

This is the first Australian AC produced on this subject.

4. DEFINITIONS

Safety Management is defined as the systematic management of the risks associated with flight operations and related ground operations to achieve high levels of safety performance.

A *Safety Management System* is an explicit element of the corporate management responsibility that sets out an operator's safety policy and defines how it intends to manage safety as an integral part of its overall business.

5. INTRODUCTION

5.1 CASR Regulation 119.275 requires an operator to whom subpart E of Part 119 applies to have a safety management system which includes provision for a safety management, accident prevention and flight safety management system. This requirement is based on the ICAO recommended practice (Annex 6 Parts I and II) for operators to have such a system in place. ICAO Document 9422 — AN/923, *Accident Prevention Manual* gives appropriate guidance material and describes a safety management system.

5.2 Benefits of a safety management system

To improve on existing levels of aviation safety in the light of the continuing growth of the industry, additional measures are needed. One such measure is to require operators to introduce their own Safety Management System (CASR Part 119 subpart E). Such a system is as important to business survival as a financial management system and the implementation of a Safety Management System should lead to achievement of one of civil aviation's key business goals: enhanced safety performance aiming at best practice and moving beyond mere compliance with regulatory requirements.

5.3 What is a safety management system?

5.3.1 A Safety Management System can be compared with a financial management system as a method of systematically managing a vital business function. It is instructive to look briefly at this aspect.

5.3.2 The features of a financial management system are well recognised. Financial targets are set, budgets are prepared, levels of authority are established and so on. The formalities associated with a financial management system include 'checks and balances'. The whole system includes a monitoring element so that corrections can be made if performance falls short of set targets.

5.3.3 The outputs from a financial management system are usually felt across the company. Risks are still taken but the finance procedures should ensure that there are no 'business surprises'. If there are, it can be disastrous for a small company. For the larger company, unwelcome media attention usually follows an unexpected loss.

5.3.4 An aircraft accident is also 'an unexpected loss' and not one that any company in the civil aviation industry wishes to suffer. It should be apparent that the management of safety must attract at least the same focus as that of finance. The adoption of an effective Safety Management System (SMS) will provide this.

5.3.5 A developed SMS provides a transparent, recorded system to manage safety and deserves at least the same degree of care that would be applied to a financial management system.

5.3.6 A similar argument applies to a comparison with Quality Management, which should interface with Safety Management as part of the organisation/s core management system.

6. GENERAL

6.1 The Fundamental Requirement of Safety Management

Success in a company's safety performance will be greatly strengthened by the existence of a positive safety culture. Safety culture in an organisation can be described as the way in which it conducts its business and particularly in the way it manages safety. It emanates from the communicated principles of top management and results in all staff exhibiting a safety ethos which transcends departmental boundaries. It can be measured by informal or formal staff surveys, or by observations conducted in safety-related work areas. Safety must be actively managed from the very top of a company. Safety management must be seen as an integral strategic aspect of business management, recognising the high priority attached by the company to safety. To that end, a demonstrable Board-level commitment to an effective formal Safety Management System must exist.

Equally, every level of management must be given a safety accountability. The contribution of the staff at and below supervisor level must be emphasised.

6.2 Understanding and Implementing a Safety Management System

6.2.1 Four points must be made at the outset, to indicate that implementation of a SMS involves evolution rather than revolution.

- Companies establishing a SMS need to take a pragmatic approach, building where possible on existing procedures and practices (particularly Quality Management). SMS identifies and prioritises the use of resources to manage risk and it should lead to gains in efficiency.
- Adoption of 'best practice' standards must be the goal.
- A fully-fledged SMS is a formalised, company-wide system. Established at the corporate level, the SMS then devolves out into the individual departments of the company. Flight Operations, Engineering and Maintenance, Ground Operations and all other departments whose activities contribute to the operator's safety performance will have their own processes and procedures under the umbrella of the corporate SMS.
- Where safety sensitive functions of the operator are outsourced (e.g. maintenance, ground handling), contractual agreements should identify the need for equivalent, auditable SMS in the supplier.

6.2.2 Many existing procedures and practices are reactive, i.e. they are put in place following a safety event. SMS is both proactive and reactive, giving a means to anticipate and prevent or reduce the effect of risks. This is the essential benefit of Safety working in partnership with Quality Management.

6.2.3 Successful development of SMS in a company follows an initial approach to the task; preparation for and implementation of SMS and, finally, the assurance of continued success of the system.

6.2.4 Unless 'starting from scratch', it is not necessary to adhere to any particular sequence of actions. Many, perhaps all, operators will find that their existing processes and procedures can be linked into the framework of a formal SMS.

7. SAFETY MANAGEMENT SYSTEM

7.1 A safety management system is a customised and structured method used by the operator to manage the safety of operations and personnel in an active and integrated manner.

7.2 This management system incorporates all of the operator's activities undertaken in the organisation.

7.3 The Safety Management System requirements have been established so that the system is documented and implemented by operators to be compatible with quality assurance and total quality management systems. Operators are encouraged to structure their documented processes to achieve a fully integrated management system.

8. SAFETY POLICY

8.1 The safety policy should include a statement in writing, signed by the operator's CEO, that the CEO is committed to:

- (a) achieving and maintaining the operator's safety objectives mentioned in regulation 119.285; and
- (b) giving emphasis to the importance of a positive safety culture in the operator's organisation; and
- (c) managing fatigue through the operator's fatigue management system.

8.2 The safety policy should:

- (a) be appropriate for the needs of the organisation; and
- (b) provide for a commitment to compliance with the Act, CASR and the operator's AOC; and
- (c) provide for a commitment to the establishment and review of the operator's safety objectives; and
- (d) be communicated throughout the organisation; and
- (e) be regularly reviewed to ensure that it remains appropriate for the organisation.

9. SAFETY OBJECTIVES

9.1 The safety objectives should state an intended safety outcome. The safety objectives may comprise both long-term objectives and short-to-medium term objectives.

The safety objectives should:

- (a) be specific, measurable, achievable and realistic; and
- (b) have a specified and timely timeframe within which they are to be achieved.

9.2 The operator should have documented safety plans to achieve each specified safety objective.

10. PERSONNEL – DOCUMENTATION OF ROLES, RESPONSIBILITIES AND AUTHORITIES

Personnel should be grouped into tasks. Position descriptions should relate to activities performed. Each person employed should have a clear direction from management as to how to conduct all the activities they are required to perform. Reporting lines should provide for each of the operator's personnel, within their task groupings, to identify their responsibilities and accountabilities for all safety related activities.

11. MANAGEMENT REVIEWS OF SAFETY MANAGEMENT SYSTEM

11.1 A reference to the operator's key personnel includes a reference to any person to whom a function of a key personnel position in the operator's organisation has been delegated.

11.2 The review should be carried out at least annually, through a combination of an annual strategic review, and more frequent tactical reviews, of the performance of the safety management system.

11.3 An annual strategic review should focus on the performance and continuing suitability of:

- (a) the safety management system; and
- (b) the safety policy; and
- (c) the safety objectives;

in response to statistics prepared by the operator's safety manager on the performance of the safety management system and to reports to the CEO by other key personnel in accordance with regulation 119.145.

Note: Under regulation 119.145 key personnel are required to report to the CEO on systems or functions for which they are responsible.

11.4 A tactical review should focus on the following:

- (a) ongoing progress of accident, serious incident and incident investigations, and subsequent actions;
- (b) corrective and preventive actions in progress;
- (c) risk management procedures including safety improvement reporting actions as required by 119.315;
- (d) results of emergency planning exercises and subsequent actions; and
- (e) internal audit and external audit results.

11.5 Each review should:

- (a) be an integral part of the operator's management meeting schedule; and
- (b) follow appropriate meeting protocols, including the taking of minutes, a review of previous minutes and action items and the recording and assigning of action items.

12. SAFETY MANAGEMENT SYSTEM IMPROVEMENT AND PREVENTIVE ACTION

12.1 The operator should establish and maintain procedures for analysing data from internal and external sources using appropriate statistical techniques.

12.2 The operator when establishing procedures for preventive action as required by subregulation 119.300 (3) should include requirements for:

- (a) identifying potential accidents, serious incidents, incidents or reported problems and their causes;
- (b) implementation of preventive action needed;
- (c) recording results of action taken;
- (d) reviewing preventive action taken.

See item 22.1 (d) in this AC for definition of preventive action.

13. SAFETY PRACTISES

The outcome from the application of Safety Practises will be the development of a positive safety culture.

13.1 BENEFITS OF A SAFETY CULTURE

In addition to a moral and legal obligation to provide employees with a safe work environment many benefits will flow from a positive safety culture. These include but are not limited to:

13.1.1 Trust

A positive safety culture will generate trust on the part of employees, contractors and other airlines and has the potential to generate additional business opportunities.

13.1.2 Improved and realistic audits

Rather than being an imposition and potential threat, a positive safety culture will welcome audits as an important source of external information and or confirmation of how well the organisation is doing.

13.2 WHAT IS CULTURE:

13.2.1 Culture is a term that can be applied to nations, organisations, sections and even small work groups. This means that at any given time your work behaviour is being influenced by several overlapping cultures. This raises the question: Exactly what is culture? There are various definitions but for our purposes culture can be thought of as having three components. They are:

- (1) What is important (to us);
- (2) What we believe; and
- (3) The way we do things around here.

13.2.2 In order to understand “What is important” in an organisation, you must begin by looking at its Policy Statements. However these are indications of intention and do not necessarily reflect current organizational practices. You must go further and consider your organisation’s actual reward and punishment practices. In many respects these practices, both formal and informal, are what define your culture: Those things that are important are rewarded; those things that are not important are ignored; and those things that are not wanted may be punished.

13.2.3 By themselves, rewards and punishments do not define a culture. How we react to rewards and punishments and take them into account as we go about flying or maintaining our aircraft depends to a large extent on what we believe. To borrow an old phrase, “*If we believe something to be true, we will behave as though it is true*”. This means that regardless of what an organisation’s stated policies might be, employees will act on their beliefs. For example, if someone believes that if they make and then report an error they will suffer an unpleasant consequence. They are therefore unlikely to make the report. At this point it is very important to mention that beliefs can be tenacious and very resistant to change, even in some cases where there is overwhelming evidence for the need to change.

13.2.4 Finally all work organisations have informal or “understood” rules and procedures about how things actually get done. This is known as peer group influence and it can be very powerful. For example a research project looking at the tendency for a pilot to violate

SOPs found that an adverse peer comment was often enough to stop the violation from occurring. To follow on from the error-reporting theme it may be that in your organisational errors may be seen as a signs of weakness or lack of diligence (possibly reflecting “can do” or “Macho” attitudes). The result can be that errors are not reported to supervisors or management”. That is, the “understood” rule might be “around here we work from memory”, etc.

13.3 CULTURE AND BEHAVIOUR

13.3.1 Many things influence how we perform on the job. These include knowledge, skills, abilities, training, practice, availability and appropriateness of tools and procedures, etc. The list is almost endless. It is apparent therefore that culture does not determine behaviour. Rather culture shapes and predisposes behaviour. As Professor Patrick Hudson suggested during his participation with CASA in a series of Forums on Safety Management, a positive culture is the added extra in the creation and maintenance of high performing and safe organisations.

13.3.2 It is apparent from the foregoing that a positive safety culture must include a clear policy statement to the effect that safety is important and that this statement must be backed up by development and support of social and technical practices that encourage positive safety behaviour. Also included must be a belief shared by all employees that they will not experience negative consequences if they behave in a manner consistent with a positive safety outcome. Finally behaviour in a manner consistent with a positive safety outcome must become the norm for all your employees as must the willingness to speak up if an unsafe (or less than safe) practice or behaviour is observed.

13.4 CHARACTERISTICS OF A SAFETY CULTURE

The goal of a positive safety culture is to encourage, promote, and support safe behaviour. A Safety Culture must include the following characteristics:

13.4.1 Just

- (1) How individuals are treated following the investigation of a mistake or event is at the very foundation of a safety culture. One of the most challenging tasks here will be to remove the idea that blame is useful. Accomplishing this will be difficult as blaming individuals for mistakes and events is a strongly ingrained part of our national and aviation culture. This in no way suggests however that you should adopt a “No Blame” policy—punishment and sanctions do have their place. What is required is that there be a clear distinction between what is acceptable behaviour and what is not, and that following a negligent action or deliberate non-compliance, people are treated accordingly.
- (2) For these distinctions to be accepted they must be developed by all those involved. They must not be simply imposed from the top.
- (3) It should be noted that behaviour unrelated to safety, can also influence the safety culture. Actions which are perceived or believed to be unfair, for example, can create a negative reaction to all other actions by the organisation. Therefore the concept of “just” must be applied to any or all mistakes or events whether they have safety implications or not.

13.4.2 Reporting

Your employees must be willing to report their own errors and near misses. To encourage this reporting, your systems need to be easy to use and employees must be convinced that incidents are worth reporting. Good reporting will only happen in a “just” culture.

13.4.3 Informed

Your managers must know what is really going on. Once reported, there must be agreed ways to analyse mistakes and events to reveal underlying systemic and/or individual issues. The key here is that “you cannot manage what you do not measure”.

13.4.4 Wary

- (1) You can anticipate and plan for most threats and hazards. However most accidents do not happen because people plan poorly or decide to gamble and lose, they happen because they did not believe that the accident was even possible.
- (2) Everyone in your organisation must be on the lookout for the “impossible” accident. There needs to be a chronic unease when you can't seem to see anything wrong.

13.4.5 Flexible

Your organisation and employees must be flexible. This means that they must be prepared to shift away from the “status quo” or the traditional way of doing things. Policies, procedures and programs must be defined by what is safe and sensible. This will require that all employees have sense of ownership of the goals, a fundamental knowledge of risk assessment and the authority to act within their competence. Above all, the aim here is be flexible enough to avoid following procedures all the way to an accident.

13.4.6 Learning

Your organisation and its employees must learn from their experiences. That is, they must learn from the outcomes of mistakes and events and reports on unsafe or inadvisable practices. This will require some experimentation with revised procedures and the willingness to try again if the revisions don't work first time.

13.5 CREATING A SAFETY CULTURE

Safety Culture is an integral part of a Safety Management system and it cannot be developed in isolation. Concurrently with the development of a Safety Management System, attention must be paid to each of the six characteristics of a safety culture. However you must start somewhere. As the concept of a “just” culture is a core characteristic of a safety culture, it might be useful to start with an analysis of the practices within the organisation and the development of error and violation management strategies. With this as a starting point it will rapidly become apparent how the other characteristics will develop.

13.6 STAGES OF A DEVELOPING A SAFETY CULTURE

13.6.1 Safety cultures can be placed on a continuum from *pathological*, or caring less about safety than about not being caught, through *calculative*, that is, mechanically following all the necessary steps, to *generative*, in which safe behaviour is fully integrated into everything the organisation does. (see Figure 1). Regardless where an organisation

starts it will progress through each stage in order. It is not possible to jump or circumvent a stage.

13.6.2 At the *pathological* stage, an organisation is not even interested in safety and has to reach the first level of acquiring a value system that includes safety as a necessary element.

13.6.3 The *reactive* stage is one in which safety issues begin to acquire importance, often driven by both internal and external factors as a result of having many incidents. At this first stage of development safety values are beginning to be acquired but the beliefs, methods and working practices are still quite basic. At this stage, top management believes accidents to be caused by stupidity and inattention and even wilfulness on the part of their employees. Many messages may flow from on high but the majority still reflect the organisation's primary aims, often with '*and be safe*' tacked on at the end.

13.6.4 The next stage, *calculative*, involves the recognition that safety needs to be taken seriously. The term *calculative* is used to stress that safety is calculated; quantitative risk assessment techniques and overt cost-benefit analyses are used to justify safety and to measure the effectiveness of proposed measures. Such techniques are typical problem-solving methods. Often simple calculations suggest that failing to be safe, or at least having incidents, costs money. Furthermore organisations that are seen from outside as being uncaring about safety may have image problems that knock on to the bottom line. Despite this stance and despite what can become an impressive safety record, safety is still an add-on, certainly when seen from outside. This is the level of mechanical application of a management system. A true safety culture is one that transcends the *calculative* levels.

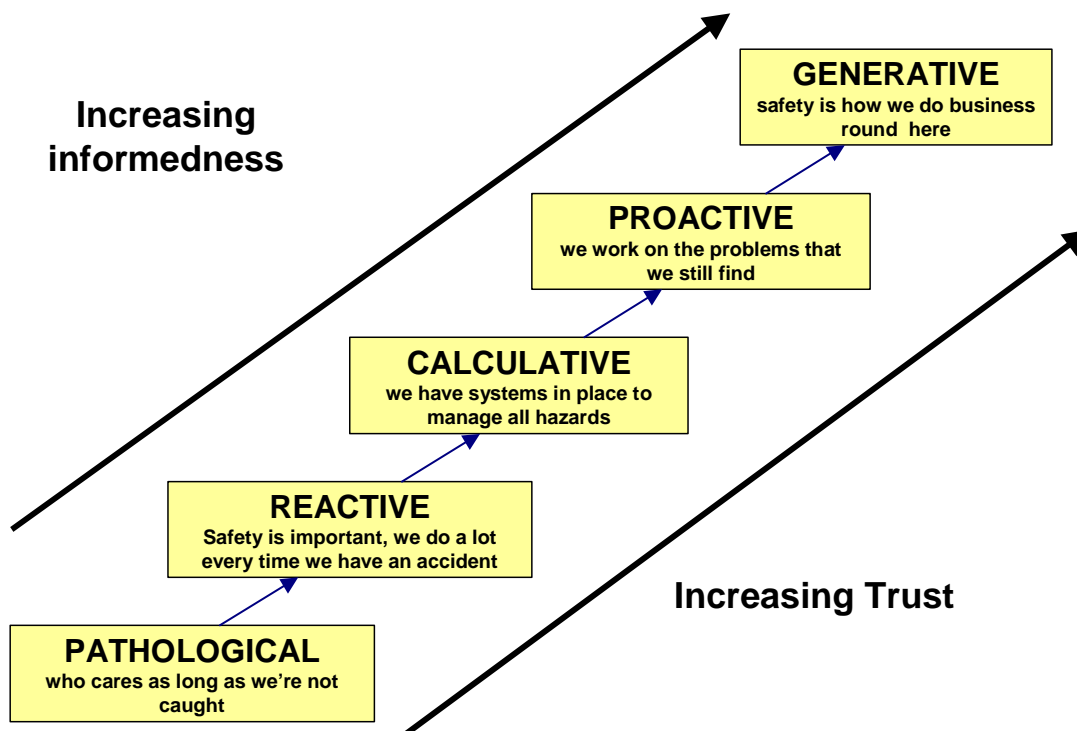
13.6.5 A Safety Culture can only be considered to have developed in the later *proactive* or *generative* stages of this evolutionary line. The foundation can now be laid for acquiring the belief that safety is worthwhile in its own right. By constructing deliberate procedures an organisation can force itself into taking safety seriously but the values are not yet fully internalised. The methods are still new and individual beliefs generally lag behind corporate intentions.

13.6.6 This demonstrates a significant characteristic of a true safety culture, that the value system associated with safety and safe working has to be fully internalised as beliefs, almost to the point of invisibility and that the entire suite of approaches the organisation uses, are safety-based. What this also stresses is that the notion of a safety culture can only arise in an organisational context within which the necessary technical steps and procedures are already in place and in operation.

13.7 MAINTAINING A SAFETY CULTURE

13.7.1 How do you maintain your effort and prevent regression or backsliding? Paradoxically, the biggest threat to a developing safety culture is success. There is a strong feeling that because mistakes or events have started to decrease that the "war" has been won and "peace" (safety) has broken out so we can now get back our "real" business. Nothing could be further from the truth. One of the best ways to continue the struggle is to stay wary and worried. Look at your hazard identification program or look around you. If you aren't having mistakes or events, someone else is. Borrow theirs and treat them as your own.

The Evolution of Safety Culture



14. SAFETY MANAGEMENT SYSTEM TRAINING

14.1 The briefings should include the following matters:

- the basic principles of the safety management system and the way in which the system will function in the organisation;
- the importance of complying with the operator's safety policy and with the requirements of procedures that form part of the operator's safety management system;
- the roles and responsibilities of personnel in achieving compliance with the safety policy and procedures.

14.2 The operator should ensure that new personnel are trained in the operation of the safety management system during their initial training program.

15. RISK MANAGEMENT PROCEDURES AND IDENTIFICATION OF SAFETY IMPROVEMENTS

15.1 Risk management procedures

Risk management procedures should involve the following:

- risk identification;
- risk analysis;

- (c) risk assessment;
- (d) risk management;
- (f) reporting procedures.

15.2 Risk identification

15.2.1 Risk identification should involve a systematic process of regular meetings where organisational risks are identified, managed and introduced in a manner that does not compromise the safety of aircraft operations.

15.2.2 Organisational risks are to be determined individually by identifying the types and extent of any:

- (a) changes to operations authorised by the operator's AOC or to the operator's organisation; or
- (b) new internal or external influences.

15.3 Risk analysis

Risk analysis should involve a determination of the severity of the consequences of each identified risk and the likelihood of its occurrence.

15.4 Risk assessment

Risk assessment should:

- (a) involve determining the priority of an identified risk; and
- (b) include an assessment of the defences which exist to protect against the risk and the adequacy of those defences.

15.5 Risk management

15.5.1 Risk management should involve the establishment of appropriate procedures to eliminate or minimise a risk.

15.5.2 Risk minimisation should involve:

- (a) providing and implementing solutions; and
- (b) the development of procedures; and
- (c) personnel training.

15.6 Reporting procedures

15.6.1 Procedures for the identification, reporting, analysis and management of identified safety improvements should be documented and implemented as part of the risk management procedures.

15.6.2 Depending on the size and complexity of the operator's organisation and the nature of the potential risk, an appropriate way of reporting may be 1 or more of the following:

- (a) to the safety manager directly
- (b) through a safety committee
- (c) through a confidential reporting or suggestion-box scheme.

16. INTERNAL COMMUNICATION AND CONSULTATION PROCEDURES

16.1 The internal communication and consultation procedures should be appropriate to the size and complexity of operations authorised by the operator's AOC and the operator's organisation.

16.2 An operator should establish and maintain information management procedures to ensure that all personnel have access to the sources of relevant information to enable them to carry out tasks effectively.

information management procedures includes, but is not limited to, the distribution of safety-related literature, magazines, periodicals, textbooks, posters, video's, CD's, DVD's and web based information.

17. DOCUMENT CONTROL PROCEDURES AND DOCUMENT CONTROL

17.1 Document control procedures should:

- (a) include methods for identifying the current issue of any safety-related document so that the currency of the document set to which it belongs can be determined; and
- (b) ensure that changes to any safety-related document are clearly identified within the document and are communicated to all personnel to whom the document applies.

17.2 A safety-related document may be in any form (including electronic form) or format.

17.3 A safety-related document should:

- (a) be readily accessible to all personnel who need to use it; and
- (b) present information, procedures or instructions in a way that can be clearly understood and followed by those personnel.

17.4 A safety-related document that is not authorised, or is obsolete, should be:

- (a) clearly marked as not authorised, or as obsolete; or
- (b) removed from the workplace to prevent its use.

17.5 If a safety-related document is updated, an archive copy of any superseded document should be stored, for at least 3 years, in order to maintain a historical record of updates.

18. RECORD CONTROL PROCEDURES

18.1 An operator should establish and maintain documented record control procedures to ensure that records form a resource for statistical analysis and preventive action.

18.2 The records may be stored in any form (including electronic form).

18.3 The records should be:

- (a) adequately filed and labelled; and
- (b) stored in a way that prevents loss or deterioration; and
- (c) readily accessible to an authorised officer.

18.4 The procedures should specify:

- (a) the period for which the records are required to be kept; and
- (b) the means of their disposal.

19. INTERNAL AUDIT

19.1 An internal audit should include at least the following processes:

- (a) a defined scope of the audit;
- (b) planning and preparation;
- (c) gathering and recording evidence; and
- (d) analysis of the evidence.

19.2 The operator should consider the following methods for inclusion in an internal audit:

- (a) a review of existing procedures relating to the operation being audited;
- (b) interviews or discussions with personnel;
- (c) the witnessing of the activities involved in the operation being audited; and
- (d) the examination of an adequate sample of records.

19.3 An internal audit may be undertaken by 1 or more internal auditors.

19.4 In determining the frequency of internal audit of an operation the internal audit procedures should take into account:

- (a) the importance of the operation to be audited; and
- (b) the frequency of significant changes to the organisation, management, operation, relevant technology or regulatory requirements.

19.5 The internal audit procedures should provide for unscheduled audits to be carried out when trends that indicate potential problems are identified.

19.6 An operator may increase the frequency of audits under the internal audit procedures but should not decrease the frequency without the written permission of CASA.

19.7 If an internal audit shows that procedures relating to the audited operation can be improved, the operator should take steps to improve those procedures.

20. AUDITORS FOR INTERNAL AUDITS

20.1 An internal auditor may be employed or engaged by an operator on a full-time or part-time basis.

20.2 An internal auditor should have appropriate responsibility and authority to do the following:

- (a) carry out internal audits;
- (b) initiate and recommend solutions to concerns and findings through the operator's safety manager;
- (c) verify the implementation of solutions within specified timeframes; and
- (d) report directly to the safety manager.

An internal auditor should have the relevant operational and maintenance experience to carry out an internal audit of an operation that is to be audited.

21. ACCIDENT AND INCIDENT RECORDING, REPORTING AND INVESTIGATION SCHEME

21.1 The detailed objectives of the reporting scheme are:

- (a) to enable an assessment of the safety implications of each accident, serious incident or incident to be made, taking into account any previous similar occurrence, so that any necessary action can be taken; and
- (b) to ensure that information gained through the investigation of accidents, serious incidents and incidents is disseminated so that other operators and their personnel, and other interested organisations, may improve the safety aspects of their operations.

21.2 The procedures established for the reporting scheme should be accessible to all personnel.

22. REMEDIAL, INVESTIGATIVE AND CORRECTIVE ACTION

22.1 The procedures should deal with the following:

- (a) **remedial action.** Action required to be taken, in response to an audit finding, to remedy the immediate situation so that operations are brought within safe parameters, to enable the operations to continue until such time as corrective action(s) can be initiated.
- (b) **investigative action.** Action required to be taken to investigate the accident, incident or problem and to determine the root cause;
- (c) **corrective action.** Action required to address the root cause so as to ensure that the accident, serious incident, incident or problem does not recur;
- (d) **Preventive Action.** The action, resulting from internal processes to analyse data (from internal and external sources), to eliminate the causes of potential problems.

22.2 The operator should establish and maintain monitoring procedures to review corrective action and ensure that it is effective.

23. EMERGENCY RESPONSE PROCEDURES

The operator's CEO, together with the operator's other key personnel, should:

- (a) review the emergency response procedures on a regular basis and particularly after the occurrence of an accident, incident or emergency situation; and
- (b) periodically test the procedures where practicable.

24. DOCUMENTATION OF PROCESSES AND CHANGE MANAGEMENT

24.1 The operator should ensure that all activities undertaken as part of a process are undertaken under controlled conditions and produce safe outcomes.

Note: Elements of a process are usually documented as part of the operator's operations manual or maintenance control manual.

24.2 The operator should establish and maintain procedures to ensure that the development process in designing and introducing any new service is adequately planned.

24.3 The operator should ensure that operational and safety requirements (including regulatory requirements) for a new service are defined and documented.

24.4 The operator should ensure that:

- (a) the results of the development process for a new service are reviewed at appropriate stages; and
- (b) the results of the review are recorded.

new service, for an operator, includes the introduction by the operator of:

- (a) a new route; or
- (b) a type of aircraft on an existing route that is not already used on that route.

25. HANDLING AND STORAGE PROCEDURES

25.1 An operator should establish and maintain procedures for the handling, loading and storage of cargo and materials (including materials for the operator's own use) that may affect the safety of operations authorised by the operator's AOC.

Note For specific requirements relating to dangerous goods, see Part 92.

25.2 Handling and storage of hazardous substances and dangerous goods should be conducted in accordance with Commonwealth, State or Territory legislation.

25.3 Part 139 requires that Certified Aerodrome Operators include in their operating manual procedures for handling hazardous substances at that aerodrome. AOC holders located at a Certified Aerodrome should develop their procedures in conjunction with the Certified Aerodrome Operator.

25.4 Procedures should ensure the correct and ready identification, storage, packaging, labelling and marking of dangerous goods from their receipt into an operator's supply system until their final disposition. It should be noted that maintenance materials such as paint and adhesives, and replacement and spare aircraft components, which are dangerous goods, must be transported by air in accordance with *Part 92*. *Part 92* also contains training requirements for employees involved in the handling of dangerous goods consigned and transported by air.

26. MEASURING EQUIPMENT AND MEASURING EQUIPMENT CALIBRATION

26.1 An operator should:

- (a) identify any measuring equipment that is used to ensure that safe operations authorised by the operator's AOC are maintained; and
- (b) ensure that the equipment can achieve the measurement accuracy required by these regulations.

Example: Weighing equipment for load control

26.2 The operator should ensure that a list of calibrated measuring equipment is kept and that the equipment is calibrated at regular intervals as required by relevant national standards.

26.3 The state of calibration of the equipment should be readily determined from labels attached to the equipment, or from readily accessible records.

26.4 The operator should document calibration methods and maintain records of calibration.

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