

AC 139-16(0)

MARCH 2005

DEVELOPING A SAFETY MANAGEMENT SYSTEM AT YOUR AERODROME

CONTENTS

1. References	1
2. Purpose	1
3. Status of this AC	1
4. Applicability	2
5. Background	2
6. What is an Aerodrome Safety Management System?	2
7. Main Features of an Aerodrome Safety Management System	3
8. Further Information	7
Appendix A: An Aerodrome Safety Management System Checklist	9

1. REFERENCES

- ICAO Annex 14, Volume 1, Section 1.3
- *Civil Aviation Safety Regulations 1998* (CASR), regulation 139.250
- Manual of Standards (MOS) – Part 139 Aerodromes, Chapter 10, Section 10.1.4
- International Standard – AS/NZS ISO 9001:2000 – Quality Management systems- Requirements

- Australia/New Zealand Standard – AS/NZS 4360:1999 – Risk Management
- Australia/New Zealand Standard – AS/NZS 4581:1999 – Management system integration
- Australia/New Zealand Standard – AS/NZS 4801:2001 – Occupational health and safety management systems
- Civil Aviation Safety Authority – Safety Management Systems Booklets:
 - Getting Started
 - What's in it for you?
 - Is it Working?(See www.casa.gov.au/sms/guidance.htm)

2. PURPOSE

The purpose of this Advisory Circular (AC) is to assist aerodrome operators in establishing a Safety Management System for their aerodrome.

3. STATUS OF THIS AC

This is the first AC to be written on the subject of Aerodrome Safety Management Systems.

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

4. APPLICABILITY

4.1 This AC applies to operators of all certified aerodromes. Operators of registered aerodromes may also introduce a safety management system (SMS) at their aerodrome.

4.2 Subregulation 139.250 (2) of CASR requires operators of certified aerodromes to have an aerodrome SMS that complies with the standards set out in the Manual of Standards (MOS) Part 139 — Aerodromes.

4.3 Paragraph 139.250 (1) (a) of CASR requires aerodromes used by aircraft engaged in international operations to have an SMS in place by 1 November 2005.

4.4 Paragraph 139.250 (1) (b) of CASR requires operators of all other certified aerodromes to have an SMS in place by 1 January 2007.

5. BACKGROUND

5.1 The management of any organisation, large or small, requires attention to many factors: financing, budgeting, personnel, resources, equipment etc. In recent years we've learnt to add safety management to this list. Safety management is now as much a part of running a modern business as any of these other more traditional factors.

5.2 An SMS is a coherent, integrated and documented set of policies, procedures and practices, for effectively managing the safe operation of your business.

5.3 ICAO introduced the concept and requirement of safety management systems for application to aerodrome operations in the November 2003 amendment to Annex 14, Volume 1 – Aerodromes.

5.4 Whilst Occupational Health and Safety (OHS) does not fall directly within the scope of the CASR Part 139 rule making, it is clear that a complete SMS would integrate operational and occupational safety, and embrace the safety issues applicable to the general public and industry people using the facility.

6. WHAT IS AN AERODROME SAFETY MANAGEMENT SYSTEM?

6.1 ICAO has defined an aerodrome SMS as a “system for the management of safety at an aerodrome, including the organisational structure, responsibilities, procedures, processes, and provisions for the implementation of aerodrome safety policies by an aerodrome operator, which provides for control of safety at, and the safe use of, the aerodrome”.

6.2 A key component of any aerodrome SMS is to ensure compliance with relevant regulations and standards. Many of these requirements, including the operational provisions, will form part of your SMS.

6.3 Aerodrome SMS's are different to other quality systems that you may have in place because the aerodrome SMS focuses on the human and organisational aspects of the operation of your aerodrome rather than the product side.

6.4 Your aerodrome SMS enables you as the aerodrome operator to take ownership of aerodrome safety. And whilst you may not be directly involved in all facets of the aerodrome activity, for example aircraft refueling, under the SMS approach you will have oversight of the safety outcomes of all aerodrome activities, including refueling.

6.5 It is important to appreciate that there is no “one size fits all” in terms of the development of an SMS for your aerodrome. Every aerodrome is unique in terms of the size of the operation, the layout of the facility, the frequency of aircraft movements, and therefore the SMS that you develop will need to address these site-specific features.

6.6 It is also important to recognize that the SMS requirement does not automatically generate the need for an additional set of, or duplication of documents. The SMS should complement the procedures set out in your Aerodrome Manual, and may be included in the Aerodrome Manual.

6.7 All aerodromes implementing an SMS will need to do more than simply adopt or adapt the existing Aerodrome Manual documentation. You will need to have a critical look at the procedures currently in place. For instance with aerodrome works, the SMS will need to incorporate safety related clauses in contracts for work at the aerodrome. For aircraft parking control, it will need to include the full range of apron activities, including aircraft apron manoeuvring, parking position marking and aircraft parking management.

7. MAIN FEATURES OF AN AERODROME SAFETY MANAGEMENT SYSTEM

7.1 From a Civil Aviation Safety Authority (CASA) perspective there are a number of ways of achieving an acceptable aerodrome SMS including:

- (a) follow the eight steps outlined in this AC;
- (b) use the process outlined in the Australian Airports Association Safety Management System Manual; or
- (c) follow the model outlined in the Australian standards (see references in Section 1).

7.2 The CASA “Safety Management System – Getting Started” booklet identified 10 steps. To maintain a consistent approach with other publications the ten steps have been consolidated into eight. This AC concentrates on an eight-step process as it relates to the operation of an aerodrome. The eight step process involves:

1. Policy
2. Management accountability
3. Establishing a process to manage risks
4. Setting up a reporting system to record hazards, risks and actions taken
5. Training and educating staff
6. Auditing the operation and investigating incidents and accidents
7. Setting up a system to control documentation and data
8. Evaluating how the system is operating

7.3 Step 1 — Policy

7.3.1 To be effective the SMS requires the commitment and active participation of your senior management and also requires the involvement of all staff from within the organisation.

7.3.2 The senior management of your aerodrome organisation can demonstrate commitment to the SMS by providing adequate resources to operate the aerodrome, by providing training for staff and contractors, and by facilitating the flow of safety management information to all staff.

7.3.3 Policy statements and principles for your organisation need to be clearly defined. These will outline your organisations fundamental approach to the management of safety at your aerodrome. They should commit your organisation, at its highest level, to the fulfillment of that policy and this means a genuine commitment to achieving the policies — not just doing it to achieve compliance.

7.3.4 Safety objectives need to be set, along with the processes necessary to meet those objectives. This will include organisation of the SMS, including the staffing arrangements, and the assignment of individual and group responsibilities on safety matters.

7.3.5 Depending on the size of your organisation it may be necessary to allocate "safety" responsibility to a specific person in each area of your organisation. Critical areas and functions include both internal groups (e.g. aerodrome reporting staff, airport lighting, airport maintenance, etc) and external agencies such as contractors, consultants, suppliers, business partners, airlines and other service companies.

7.4 Step 2 — Management Accountability

7.4.1 There needs to be one person within the aerodrome organisation who is responsible for managing the SMS. This person is the Safety Officer and will report direct to the Chief Executive so that any reports, recommendations or urgent issues can be assured of the highest level of consideration.

7.4.2 Depending on the size of your aerodrome, the safety officer may be a full time permanent employee, and at the major capital city airports the person may have one or more assistant.

7.4.3 The responsibility of the safety officer needs to be clearly defined, however the most important thing is that clear lines of communication and responsibility exist between the safety officer and the senior management of your organisation.

7.4.4 Depending on the size of your organisation, the safety officer may need to be supported by a safety action group or safety committee. This group would act as a source of expertise and advice particularly with respect to safety recommendations and preparation of reports to senior management.

7.4.5 The committee would also act as a forum for discussing aerodrome and organisational safety related issues. At large airports this may mean a cross-functional committee that takes in all of the operators' different operating areas.

7.4.6 Ideally the committee would be chaired by the safety officer and meet on a regular basis. Minutes and action items are to be recorded as part of the normal functioning of the committee and made available to staff.

7.5 Step 3 — Hazard Identification and Risk Management

7.5.1 An SMS should include a formal risk assessment program that identifies the hazards at your aerodrome. A hazard (as defined in the Australian Standard AS/NZS4360:1999) is “a source of potential or a situation with a potential to cause loss”.

7.5.2 There are many ways of identifying hazards at your aerodrome. Depending on the size and complexity of your aerodrome organisation, the following methods may be useful:

- brainstorming, where small discussion groups meet to generate ideas in a non-judgemental way;
- a formal review of the organisations standards, procedures and systems using checklists generated by staff familiar with audit processes;
- surveys or questionnaires of staff;
- internally or externally conducted safety assessments and technical inspections;
- confidential reporting systems.

7.5.3 Some hazards at your aerodrome may be obvious, such as ineffective bird management, or they may be more subtle, such as utilising inexperienced staff.

7.5.4 Having identified the hazards at your aerodrome, they then need to be assessed and ranked in order of risk potential. Factors to consider are the likelihood of the occurrence and the severity of the consequences. Priorities can then be established and strategies put in place to remove or manage the hazard.

7.5.5 It's also important to recognise that hazard identification and risk assessment are not static processes. They need to be performed whenever:

- a major organisational change is being planned;
- your organisation is undergoing rapid expansion or contraction;
- the introduction of new equipment or facilities is being considered;
- existing equipment is being decommissioned;
- the introduction of new procedures is being planned;
- existing procedures are being revised;
- changes to key personnel are taking place;
- there are changes to the legislation that your organisation operates under.

7.6 Step 4 — Reporting System

7.6.1 The SMS needs to include an ongoing hazard reporting, recording and action taken process. Staff should be able to report hazards or safety concerns as they become aware of them.

7.6.2 For best results, and greatest acceptance amongst staff, the hazard reporting system should be just, confidential, simple and convenient to use. For example at larger airports a simple card system sent to a designated contact point, such as the safety officer, would be one way of achieving this.

7.6.3 Once hazards are reported in this way, they need to be acknowledged and investigated. Feedback about the hazard also needs to be provided in an appropriate manner. Feedback is essential in letting staff know that the reporting system is working.

7.6.4 The procedures for investigating reports need to be clearly spelt out so they are transparent to all users.

7.7 Step 5 — Training and Education

7.7.1 The aerodrome SMS should provide for staff training and competency, including the review and evaluation of the adequacy of the training and the system for testing competencies.

7.7.2 Both induction and recurrent training need to be considered. For example, how often will your Aerodrome Reporting Officers or Works Safety Officers be given training?

7.7.3 New employees should be trained in the organisations safety philosophies and SMS as part of “job specific training”. Through this process they will need to be encouraged to adopt the safety practices of the organisation.

7.7.4 Recurrent training is an essential element of any SMS, as it reinforces the positive aspects of a safe working environment and safe work practices.

7.7.5 It goes without saying that the SMS needs to detail the procedures for training of staff when new equipment, new facilities, larger aeroplane types, new technologies or processes are being introduced to your organisation.

7.8 Step 6 — Audit and Assessment

7.8.1 Internal safety audits or assessments should be carried out as part of the SMS. These assessments check that correct procedures are being followed. They should also include a check of the activities of third parties such as contractors and consultants.

7.8.2 Procedures that provide for internal safety audit of the system need to be clearly stated so that there is no confusion over the role of the auditor or audit team.

7.8.3 A second aspect of the internal safety audit process is the thorough investigation of all incidents, accidents and near misses. Remembering of course that the primary purpose of the investigation is to uncover the root causes and contributing factors to the incident – not to apportion blame.

7.8.4 Every incident/ accident offers us the opportunity to learn, not only what happened, but also why it happened. This is only revealed however, if incidents and accidents are thoroughly investigated. A full and open investigation will reveal the human and organisational factors behind the incident.

7.9 Step 7 — Documentation and Data Control

7.9.1 Where the SMS Manual is a stand-alone document it should be subject to document control procedures, with a person appointed as the Manual Controller. A system will need to be put in place to update and distribute the document.

7.9.2 Smaller aerodrome operators may find it easier to document their SMS within their Aerodrome Manual. Large aerodrome operators, on the other hand, will most likely have their SMS as a separate document as they do with other documents required by CASA.

7.9.3 The SMS document should also clearly indicate the process the aerodrome operator has in place for monitoring and updating the manual in line with changes in the Regulations that govern its activities.

7.9.4 The aerodrome SMS will also necessitate a reliable recording system for all internal safety audits, technical inspections and specialist reports. The system should enable easy retrieval of this information.

7.10 Step 8 — Evaluation of SMS

7.10.1 It's up to the Chief Executive Officer/General Manager to ensure that the SMS is reviewed and evaluated at regular intervals. The process of establishing your SMS will in effect lead you to decide how often this is best achieved.

7.10.2 Regular reviews, in a structured and systematic way will enable you to measure the effectiveness of your SMS.

7.10.3 When your SMS is in place, the local CASA Aerodrome Inspector will assess its effectiveness as part of the surveillance process.

7.11 Putting these eight elements in place is of course just the first stage in building an effective SMS. You will need to integrate these elements into your organisation for them to be fully effective.

8. FURTHER INFORMATION

For further information on SMS contact your local Aerodrome Inspector or Aerodrome Standards Section in the Operational and Flight Crew Licensing Standards Branch of CASA.

Neville Probert
Acting Executive Manager
Aviation Safety Standards

INTENTIONALLY LEFT BLANK

APPENDIX A: AN AERODROME SAFETY MANAGEMENT SYSTEM CHECKLIST

Based on CASA Safety Management System (SMS) documentation, this checklist is designed to assist aerodromes in preparing an SMS for their aerodrome. This is not intended to be an exhaustive list, merely a starting point.

POLICY

- Does the documented system commit senior management to be involved in the SMS?
- Has senior management approved the organisations safety policy and operating safety standards?
- Does the documented system detail how the safety policy and standards will be communicated to all staff, with visible endorsement by senior management?
- Does the documented system detail how appropriate resources will be allocated to support the SMS?
- Does the documented system include a process for senior management to establish an appropriate reporting chain for safety issues?
- Does the documented system commit senior management to actively encourage staff participation in the SMS?
- Has a safety policy been developed by management and staff?
- Has the Chief Executive Officer signed the safety policy?
- Is the safety policy included in the documented system?
- Does the documented system ensure that the safety policies align with the other operational policies?
- Does the documented system detail how the safety policy will be communicated to all staff?
- Does the documented system detail how the safety policy will be reviewed?
- Does the documented system commit the operator to regular and routine reviews?

MANAGEMENT ACCOUNTABILITY:

- Has a safety officer has been appointed?
- Have the details of the appointment been included in the documented system?
- Does the documented system provide for the safety officer to have an open line of communication to the Chief Executive Officer?
- Are the roles and responsibilities of the safety officer clearly defined and documented?
- Does the documented system include a process to ensure that staff and management will understand the roles of the safety officer?

- Has a safety committee been established?
- Are details of the Committee included in the documented system?
- Are the roles and responsibilities of the safety committee clearly defined and documented?
- Does the documented system include a process to ensure that staff and management will understand the roles of the safety committee?
- Does the safety committee include representation from across the organisation?
- Is there a documented process to ensure that minutes of the safety meetings will be made available to all employees?

RISK MANAGEMENT PROCESS

- Have criteria for evaluating risk been established and documented?
- Has a system for identifying hazards been put in place and documented?
- Does the documented system provide for relevant staff to be involved in critically analysing and ranking identified risks?
- Does the documented system include details of defences that have been set up to reduce, eliminate or avoid risks?
- Does the documented system include details of how staff will be made aware of the defences, and receive training, where appropriate?
- Does the documented system include details of checks that will be in place to find out whether defences are working?

REPORTING SYSTEM TO RECORD HAZARDS, RISKS AND ACTIONS TAKEN

- Does the documented system provide for all reports to be recorded and investigated?
- Does the documented system include a combination of formal and informal reporting processes?
- Does the documented system provide for staff to be made aware that they will not be penalised for submitting a report?
- Does the documented system include a process to protect confidentiality?
- Does the documented system include a process to ensure that staff who report hazards will be given feedback?
- Does the documented system include a process to ensure that after investigations, recommendations will be made available to all staff?
- Does the documented system allow the safety officer to monitor the status of each identified hazard?

TRAINING AND EDUCATING STAFF

- Does the documented system include a process for ensuring that staff will understand how the SMS operates?
- Does it include a process for ensuring that staff will be aware of the role they play in the SMS?
- Does it include a process for ensuring that staff will understand that the aim of the SMS is to improve safety – not to attribute blame?
- Does it include a process for ensuring that all personnel will attend induction and ongoing safety related training?

AUDITING THE OPERATION AND INVESTIGATING INCIDENTS AND ACCIDENTS

- Is there a documented system to audit whether the company is meeting regulatory requirements and its own safety standards?
- Does the documented system provide for staff to be encouraged to submit hazard reports and share safety concerns?
- Does the documented system include a process to ensure that feedback will be provided to those audited?
- Does the documented system include a process for investigations to be carried out for hazard reports, accidents and incidents?

DOCUMENTATION AND DATA CONTROL

- Is the SMS completely documented?
- Does the documented system provide for all documents to be accessible to those who must use them?
- Does the documented system include a process for ensuring that relevant safety data will be kept?
- Does the documented system provide for all documents to be updated on a regular and routine basis?

EVALUATING HOW THE SYSTEM IS WORKING

- Does the documented system include a plan for the review of the SMS?
- Does the documented system include a process to ensure that adequate resources will be allocated to the evaluation process?
- Does the documented system include a process to ensure that staff will be involved in the evaluation of the SMS?