HELLENIC CAA	FLIGHT STANDARDS DIVISION **INFORMATION BULLETIN**	**FSD/OPS/IB 04/2013**
	Αποδέκτες: **ΕΛΛΗΝΕΣ ΑΕΡΟΜΕΤΑΦΟΡΕΙΣ** ΚΑΙ ΑΙΤΟΥΝΤΕΣ AOC	**ΕΚΔΟΣΗ 23/5/2013**

Subject	**SAFETY MANAGEMENT SYSTEM (SMS)**

SCOPE

This Information Bulletin provides to the Operators-Organizations, all the necessary information and requirements to implement a Safety Management System (SMS).

Within the context of this bulletin the term "operator-organization" refers to any organization providing aviation services. The term includes aircraft operators, approved maintenance organizations, air traffic services providers and certified aerodromes, as applicable.

This bulletin addresses aviation safety related processes, procedures and activities rather than occupational safety, environmental protection, or customer service or product quality.

The Operator-Organization is responsible for the safety of services or products contracted or sub-contracted to or purchased from other organizations.

This chapter establishes the minimum acceptable requirements; the service provider can establish more stringent requirements.

1. Introduction

In order to further improve the already good safety record that exists in the civil aviation industry, ICAO has promoted the principles of safety management. These principles revolve around the implementation of a Safety Management System (SMS) in industry organisations and a State Safety Programme (SSP) in Contracting States.

ICAO has published "The Safety Management Manual" (ICAO Doc 9859) giving all the necessary information both to the Authorities and the industry concerning Safety Management and Culture in general. ICAO is currently developing a new Annex (Annex 19). The new Annex will collect in one document all the safety management

requirements now spread across various Annexes. ICAO plans to adopt Annex 19 in November 2013.

When developing these principles, ICAO mandated that all Contracting States (and therefore also EASA Member States) implement an SSP while organisations in the Member States were required to establish an SMS. Both elements are complementary.

The first EASA SSP/SMS requirements have been adopted in the form of authority and organisation requirements with Regulation (EU) 290/2012 in the domain of flight and cabin crew and Regulation (EU) 965/2012 in the domain of air operations. Requirements will be progressively extended to other domains of the aviation system.

The European Commercial Aviation Safety Team (ECAST), a partnership among EASA, other European regulators and the aviation industry, established an SMS and safety culture working group with the objective of providing guidance on safety management in support to regulatory materials being developed by ICAO and EASA. For further study, the materials developed by the group can be found at: http://easa.europa.eu/essi/ecast/main-page-2/sms/

Additionally to the above, EASA, the Member States, the European Commission and Eurocontrol have taken a more proactive approach and worked collaboratively to develop the European Aviation Safety Programme (EASP). The EASP aids Member States in meeting their legal obligations and further improving safety.

Current rulemaking status regarding SSP and SMS

The first opportunity for EASA to draft regulations in the area of SSP and SMS was offered through the first extension of its remit to cover the areas of Air Operations and Flight Crew Licensing. This process started back in 2006. Among other deliverables it resulted in the development of two distinct sets of requirements for authorities and organisations respectively:

- Authority Requirements take due account of the critical elements of a safety oversight system defined by ICAO, thus they support the implementation of SSPs, while serving the standardisation objective set out in the Basic Regulation [(EC) No 216/2008].

    - They further include elements that are essential for establishing a comprehensive aviation safety management system at EU level, encompassing EU and Member State responsibilities for safety management. Hence, these common authority requirements are directly relevant to the implementation of the European Aviation Safety Programme (EASP).
    - Organisation Requirements include consolidated general requirements for management systems, designed to embed the ICAO SMS SARPs in a way as to ensure compatibility with existing management systems and to encourage integrated management. EASA believes that SMS should not be implemented through an additional requirement superimposed onto the existing rules: Imposing a safety management system as a separate element could be interpreted as yet another prescriptive requirement, with the risk that organisations seek to satisfy their competent authority by showing that they have added in their organisation all required prescriptive elements, without effectively embedding safety management into all their processes. The EASA management system requirements fit various organisations, whatever their size,

nature or complexity of activities and whatever business model they follow, thus catering for proportionate application.

For the different technical areas these general Authority and Organisation Requirements are complemented with more specific requirements (for example: flight data monitoring requirements for air operators). These general Authority and Organisation Requirements have been designed to set the standard for implementing streamlined requirements for all areas within EASA's remit. In particular, the common management system requirements constitute a single safety management framework for all approved organisations within the scope of the Basic Regulation. Considering the different historical backgrounds of the different aviation domains within the EU (e.g. airworthiness and air operations with a similar background, whereas ATM/ANS comes from different background) harmonisation of the existing regulatory material to align with this framework cannot be achieved in the short term.

Basic Regulation (EC) No 216/2008

AIRWORTHINES	AIRCREW	AIR OPERATIONS	ATM/ANS	AERODROMES
(EU) No 748/2012 **(EC) No 2042/2003**	**(EC) No 290/2012**	**(EC) 965/2012**	**(EC) No 691/2010** **(EC) No 1034/2011** **(EC) No 1035/2011**	**NPA 2011-20**

HCAA establishes this implementation to harmonize the SMS requirements for aviation operators and organizations governed by HCAA aviation regulations.

2. Applicability and acceptance

An Operator-Organization shall have in place a safety management system (SMS) acceptable to HCAA that, as a minimum:

- Identifies safety hazards;
- Ensures the implementation of remedial action necessary to maintain agreed safety performance;
- Provides for continuous monitoring and regular assessment of the safety performance; and
- Aims at a continuous improvement of the overall performance of the safety management system.

In order to be acceptable to the HCAA, a service provider SMS shall meet the requirements set forth in this chapter.

3. Guidance material

As well as the HCAA's oversight of civil aviation in Greece it is vital that the aviation industry itself constantly consider safety risks and takes proactive action to make aviation as safe as possible. Airlines and others are adopting Safety Management Systems (SMS) which make safety checks and decisions part of the everyday operation, rather than waiting for a regulator to raise an issue on an audit or visit.

In order to assist organisations in their preparation for SMS, HCAA has issued the following information:

A. **HCAA Safety Management Systems Guidance Material** **(Attachment 1)**

Provides information, based on ICAO Document 9859 Safety Management Manual, about the components and elements of an SMS. It is intended to propose this as an alternative means of compliance against the EASA Management Systems (SMS) requirements once the rules are published.

B. **SMS Guidance for Small Non-Complex Organisations** **(Attachment 2)**

This document has been written to assist non-complex organisations to develop and implement an effective and acceptable SMS and includes example forms and documents. This may also be useful guidance for smaller complex organisations to refer to. Organisations need to determine whether they are complex or non complex.

1. An organisation should be assessed as complex when it has a workforce of more than 20 full time employees.

2. Notwithstanding the size of the organisation:

   - the following complexity criteria should be also assessed:
     extent and scope of contracted activities.

   - the following risk criteria should also be assessed:
     a. use of the following special approvals: RNP-X, LVO, ETOPS, HHO, HEMS, NVIS, DG, SFL;
     b. different types of aircraft operated or used;
     c. environment (offshore, mountainous area etc…).

3. Notwithstanding the criteria above, the following organisations should be considered as non complex:

   a. approved training organisations only providing training for basic LPL, PPL, SPL and BPL;
   b. commercial operators of other than complex motor powered aircraft performing only local operations;
   c. aeromedical centres.

C. **Phase 1 SMS Evaluation Framework/GAP Analysis for Complex Organisations (Attachment 3)**

The Phase 1 Evaluation Framework should be used for organisations implementing SMS and should be completed first to determine compliance with the SMS framework. It should be completed by organisations to demonstrate how they have implemented and established a working SMS and be provided to the HCAA who will arrange a visit to assess your SMS.

D. **Phase 1 SMS Evaluation Framework/GAP Analysis for Non-Complex Organisations (Attachment 4)**

For organisations that determine they are non-complex a simplified evaluation framework should be completed by the organisation and provided to the HCAA.

E. Phase 2 SMS Evaluation Tool for Complex and Non Complex Organisations (Attachment 5)

The Phase 2 SMS evaluation tool will be used to assess the effectiveness of an organisation's SMS. Organisations should use the tool to assess themselves and provide a copy to the HCAA who will use this as the basis for the SMS assessment. For Non-complex organisations only the shaded indicators need to be assessed at this time.

Ο Προϊστάμενος
Διεύθυνσης Πτητικών Προτύπων

(signed)

Κ. Σφακιανάκης

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Attachment 1

CAA Safety Management Systems Guidance Material

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1. INTRODUCTION

The purpose of this document is to provide guidance on the implementation of Safety Management Systems (SMS) for Air Operator's Certificate (AOC) holders, Continuing Airworthiness Management Organisations, Maintenance Organisations, Air Navigation Service Providers, Aerodromes and Approved Training Organisations. It has been developed to give sufficient understanding on SMS concepts and the development of management policies and processes to implement and maintain an SMS that meets ICAO requirements and future EASA implementing rules. Therefore, organisations are encouraged to refer to this document and ICAO Doc 9859 as their principal source of guidance on SMS.

Safety management goes beyond the traditional approach of compliance with prescriptive regulations to a systematic approach to managing safety where potential safety risks are identified and managed to a tolerable level as the industry develops and evolves. SMS adopts a business-like approach to safety, similar to the way that finances are managed, with safety plans, safety performance indicators and targets and continuous monitoring of the safety performance of the organisation. It provides for effective risk based decision making processes across the business.

It is important to recognise that SMS is a top down driven system, which means that the Accountable Manager of the organisation is responsible for the implementation and continuing compliance of the SMS. Without the wholehearted support and ownership of the Accountable Manager the SMS will not be effective.

There is not a 'one size fits all' model for SMS that will cater for all types of organisations. A complex SMS is unlikely to be appropriate for small organisations, and all organisations should tailor their SMS to suit the size, nature and complexity of the operation, and the hazards and associated risks inherent with its activities. Guidance for smaller non complex organisations is contained in a separate HCAA guidance document

Where an organisation is part of a group that has several approvals a single Group SMS may be developed provided that there is clear accountability between the group and the subsidiary companies.

2. SAFETY MANAGEMENT SYSTEM

2.1 Introduction

SMS is a proactive and integrated approach to Safety. It should be integrated into the management system of an organisation. It should describe the structure and scope of the organisation, available resources, staff accountabilities, authorities and responsibilities and how decisions are taken and managed throughout the organisation.

2.2 **Safety Assurance**

A key function of the SMS is assurance that the system is working and is effective. This involves:

- The setting and monitoring of the organisation's safety performance;
- Assessing the effectiveness of the SMS by confirming that the mitigations, controls and defences put in place are working and effective to ensure safe operational practices;
- Monitoring compliance with the appropriate regulations and standards.

2.3 **Safety Management System**

SMS is an organised approach to managing safety, including the necessary organisational structures, accountabilities, policies and procedures. It is more than a manual and a set of procedures and requires safety management to be integrated into the day to day activities of the organisation. It requires the development of an organisational culture that reflects the safety policy and objectives.

At the core of the SMS is a formal Risk Management process that identifies hazards and assesses and mitigates risk. As part of the risk management process it should consider risks generated by contracted activities. Therefore, when the organisation has a formal agreement with another organisation this should include provisions for the management of safety.

2.4 **Safety Management System Implementation**

The first step in the development of any successful SMS is to identify what elements currently exist within an organisation, this can be achieved by carrying out a thorough gap analysis of the current business, from which an implementation plan can be developed and delivered. The contents of the implementation plan should include:

(a) Safety policy;
(b) Safety planning, objectives and goals;
(c) System description;
(d) SMS components;
(e) Safety roles and responsibilities;
(f) Safety reporting policy;
(g) Means of employee involvement;
(h) Safety communication;
(i) Safety performance measurement;
(j) Management review of safety performance;
(k) Safety training.

3. THE KEY COMPONENTS OF A SAFETY MANAGEMENT SYSTEM

The SMS should comprise of the following four key components:

(a) Safety Policy and Objectives;
(b) Safety Risk Management;

(c) Safety Assurance;
(d) Safety Promotion.

4. SAFETY POLICY AND OBJECTIVES

The Safety Policy outlines the methods and processes that the organisation will use to achieve desired safety outcomes. It should declare the principles and philosophies that lay the foundation for the organisation's safety culture and be communicated to all staff throughout the organisation. The creation of a positive safety culture begins with a clear, unequivocal direction and ownership from the Accountable Manager.

In preparing a safety policy, Senior Management should consult with key staff members in charge of safety critical areas. Consultation will ensure that the safety policy and stated objectives are relevant to all staff and generate a sense of shared responsibility for the safety culture in the organisation. A positive safety culture is one where all staff must be responsible for, and consider the impact of, safety on everything they do.

The Safety Policy and Objectives can be divided into the following five areas:

(a) Management Commitment and Responsibility;
(b) Safety Accountabilities;
(c) Appointment of Key Safety Personnel;
(d) Coordination of Emergency Response Planning;
(e) SMS Documentation.

4.1 Management Commitment and Responsibility

4.1.1 The Accountable Manager should have full responsibility and accountability for the SMS and should have:

(a) Corporate authority for ensuring all activities can be financed and carried out to the required standard;
(b) Full authority for ensuring adequate staffing levels;
(c) Direct responsibility for the conduct of the organisation's affairs;
(d) Final authority over operational matters;
(e) Final accountability for all safety issues.

4.1.2 Senior Management should:

(a) Develop the safety policy, which is endorsed and actively supported by the Accountable Manager;
(b) Continuously promote the safety policy to all staff and demonstrate their commitment to it;
(c) Specify and allocate necessary human and financial resources;
(d) Establish safety objectives and performance standards for the SMS. The safety objectives and performance standards should be linked to the safety performance indicators (SPIs), safety performance targets and regulatory safety requirements of the SMS.

4.2 Safety Accountabilities

The organisation should clearly define the lines of safety accountability throughout the organisation. This should include the direct accountability for safety on the part of the Accountable Manager and senior management. There is also a need to define the safety responsibilities and expected behaviours of key personnel (e.g. Nominated Post-holders, Safety Manager, Safety Officers, Safety committee members). Safety is everyone's responsibility and all staff should be aware of their safety roles and responsibilities.

It is essential that safety management is seen as an integral strategic part of the organisation's business by assigning the highest priority to safety. With this in mind, there has to be a demonstrable Board level commitment to an effective SMS.

The Accountable Manager, together with the Senior Management team, set the standard for the organisation's safety culture. Without this commitment and leadership, SMS will be ineffective.

4.3 Appointment of Key Safety Personnel

Whilst the organisational structure of the SMS should reflect the size, nature and complexity of the organisation, consideration should be given to the:

(a) Appointment of a Safety Manager;
(b) Creation of safety committees.

4.3.1 The Safety Manager

The Safety Manager should be a Senior Management appointment in the organisation in order to provide the necessary degree of authority when dealing with safety matters and should report directly to the Accountable Manager of the organisation.

4.3.1.1 The Safety Manager should possess:

(a) Broad operational knowledge and experience in the functions of the organisation and the supporting systems;
(b) Sound people skills;
(c) Analytical and problem solving skills;
(d) Project management skills;
(e) Effective oral and written communication skills;
(f) An understanding of human and organisational factors;
(g) Sound knowledge of safety management principles and practices.

It is important to note that accountability for the SMS lies with the Accountable Manager not the Safety Manager.

The Safety Manager is responsible for, and is the focal point for, the

development, administration and maintenance of the SMS.

The Safety Manager should be a full-time employee although in a smaller less complex organisation it may be a part time role shared with other duties.

4.3.1.2 The Safety Manager should carry out at least the following functions:

(a) Manage the SMS implementation plan on behalf of the Accountable Manager;
(b) Facilitate the risk management process that should include hazard identification, risk assessment and risk mitigation;
(c) Monitor corrective actions to ensure their accomplishment;
(d) Provide periodic reports on safety performance;
(e) Maintain safety documentation;
(f) Ensure that there is safety management training available and that it meets acceptable standards;
(g) Provide independent advice on safety matters;
(h) Oversee hazard identification systems;
(i) Involvement in occurrence / accident investigations;
(j) To collate, understand and disseminate information from other similar organisations, the regulator and contracted organisations.

4.3.2 **Safety Committees**

4.3.2.1 **Safety Review Board**

The Safety Review Board (SRB) is a high level committee which considers strategic safety functions. The Board should be chaired by the Accountable Manager and should normally include the senior management of the organisation. Membership of the Board and frequency of meetings should be defined. Directors of the organisation may be included in the SRB.

The SRB ensures that appropriate resources are allocated to achieve the established safety performance and gives strategic direction to the safety action group.

The SRB monitors:

(a) Safety performance against the safety policy and objectives;
(b) Effectiveness of the SMS implementation plan;
(c) Effectiveness of the safety oversight of sub-contracted organisations;
(d) Necessary corrective or mitigating actions are being taken in a timely manner;
(e) Effectiveness of the organisation's safety management processes.

4.3.2.2 **Safety Action Group**

A safety action group should be established as a standing group or as an ad-hoc group to assist or act on behalf of the SRB. The Safety Action Group (SAG) reports to and takes strategic direction from the SRB. It is comprised of managers, supervisors and staff from operational areas. Membership of the Group and frequency of meetings should be defined. The Safety Manager may also participate in the SAG.

4.3.2.3 The SAG oversees and reviews:

(a) Operational safety of the safety risk management processes;
(b) Appropriate resolution and mitigation of identified risks;
(c) Assessment of the impact on safety of operational changes;
(d) Implementation of corrective action plans;
(e) Corrective action is achieved within agreed timescales;
(f) The effectiveness of previous safety recommendations and safety promotion.

4.4 Coordination of Emergency Response Planning

An Emergency Response Plan (ERP) should be established that provides the actions to be taken by the organisation or individuals in an emergency. The emergency response plan should be integrated into the SMS and reflect the size, nature and complexity of the activities performed by the organisation.

Where organisations, such as aerodromes, are subject to other Emergency Planning and Response requirements these should be adhered to and may be cross referred to.

4.4.1 The ERP should ensure:

(a) An orderly and efficient transition from normal to emergency operations;
(b) Designation of emergency authority;
(c) Assignment of emergency responsibilities;
(d) Authorisation by key personnel for actions contained in the plan;
(e) Coordination of efforts to resolve the emergency;
(f) Safe continuation of operations or return to normal operations as soon as practicable.

The ERP should set out the responsibilities, roles and actions for the various agencies and personnel involved in dealing with emergencies. It may include checklists and contact details and the ERP should be regularly reviewed and tested. Key personnel should have easy access to the ERP at all times.

4.5 SMS Documentation

4.5.1 Documentation for a SMS should be representative of the nature, scale and complexity of the organisation and normally consists of:

(a) References to all applicable regulations;
(b) SMS records (e.g. Hazard logs, risk assessments, safety cases);
(c) Records management;
(d) SMS manual.

4.5.2 The safety policy should include a commitment to:

(a) Achieve the highest safety standards;
(b) Comply with all applicable legal requirements, meet all applicable

standards and consider best practice;

(c) Provide appropriate resources;
(d) Enforce safety as a primary responsibility of all Managers;
(e) Ensure that the policy is implemented and understood at all levels, both internally and externally.

The safety policy should actively encourage effective safety reporting and, by defining the line between acceptable and unacceptable performance, provide fair and just protection to reporters.

4.5.3 The organisation's SMS manual should be the key instrument for communicating the approach to safety for the whole of the organisation and should document all aspects of the SMS, including the safety policy, objectives, procedures and individual safety accountabilities. The SMS should be constantly evolving and therefore the SMS manual should be a living document and should be reviewed regularly to ensure that it remains accurate and appropriate. The SMS manual may be incorporated into existing manuals or expositions. Contents should include:

(a) Scope of the SMS;
(b) Safety policy and objectives;
(c) Safety accountabilities;
(d) Key safety personnel;
(e) Documentation control procedures;
(f) Hazard identification and risk management schemes;
(g) Safety performance monitoring;
(h) Incident investigation and reporting
(i) Emergency response planning;
(j) Management of change processes;
(k) Safety promotion;
(l) Contracted activities;
(m) Just culture policy and culpability definition.

5. SAFETY RISK MANAGEMENT

The Safety Risk component of a SMS can be divided into three areas:

(a) Hazard identification processes;
(b) Risk assessment and mitigation processes;
(c) Internal safety investigation.

The safety risk management process starts with identifying hazards affecting aviation safety and then assessing the risks associated with the hazards in terms of severity and likelihood. Once the level of risk is identified, appropriate remedial action or mitigation measures can be implemented to reduce the level of risk to as low as reasonably practicable. The implemented mitigation measures should then be monitored to ensure that they have had the desired effect. It is important to ensure a common standard and process for Hazard Identification Risk Assessment and Control is implemented throughout the organisation. Appropriate training and education will ensure a clear understanding on how to deliver this.

5.1 Hazard Identification

A hazard is any situation or condition that has the potential to cause adverse consequences. A hazard identification process is the formal means of collecting, recording, analysing, acting on and generating feedback about hazards that affect the safety of the operational activities of the organisation. In a mature SMS hazard identification is an ongoing process.

The scope of hazard identification is across the operational activities of the organisation with data derived from reactive and proactive schemes. Reactive schemes include data from accidents, incidents, flight data monitoring, voluntary and confidential reporting systems. Proactive schemes include open hazard reporting systems, LOSA (Line Operations Safety Audit) style normal operation assessments, safety surveys and safety assessments. Managed group sessions can also be used to proactively identify hazards. Organisations should carry out an initial hazard identification exercise on its current operations to create a baseline safety case / hazard log for the organisation and its activities that should be continuously reviewed and updated.

5.2 Risk Assessment and Mitigation

5.2.1 Risk

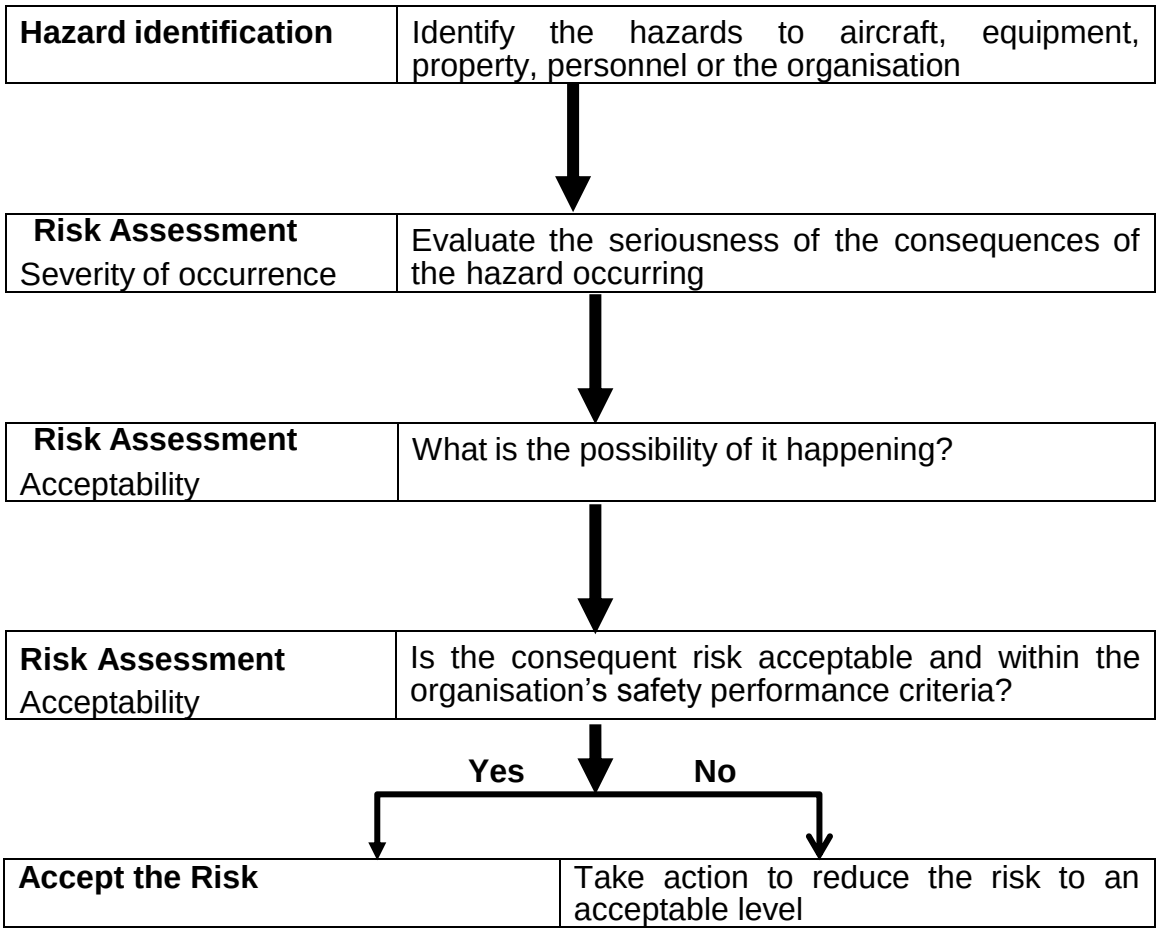
Risk is the assessed potential in terms of severity and likelihood of the consequences of a hazard considering the worst case scenario. A hazard has the potential to cause harm while risk is the likelihood of that harm being realised within a specific time-scale.

Following the identification of a hazard, a risk assessment is carried out to determine the potential for harm or damage. This involves the following considerations:

(a) Severity: The severity of the possible consequences of an unsafe event or condition;
(b) Likelihood: The likelihood that an unsafe event or condition will occur.

Risk Assessment and Mitigation Processes analyse and eliminate or mitigate to an acceptable level, risks that could threaten the capability of an organisation to undertake its activities in a safe manner.

A diagram showing the hazard analysis and risk assessment process is shown below:



A system should be developed for assessing and analysing the data collected or derived from the actions outlined above. Information provided by the analysis should be distributed to those with a responsibility for operational safety in the organisation.

Confidential reporting systems should be based on a just culture providing appropriate protection for the reporter including an effective feedback process. This approach should encourage staff at all levels to proactively report near misses and hazards.

5.2.2 **Risk Assessment**

The risk assessment process requires a Risk Tolerability Matrix to be defined for assessing hazards and should be included in the SMS documentation. An example of a risk tolerability matrix and it's definitions is provided below. While the severity of the consequences can be defined, the likelihood of occurrence may be more subjective, based on the maturity of the organisation's operational activities. The assessment process should be recorded at each stage to form a substantive record.

Severity of Consequences

Aviation Definition	Meaning	Value
Catastrophic	Aircraft / Equipment destroyed. Multiple deaths.	5
Hazardous	A large reduction in safety margins, physical distress or a workload such that organisations cannot be relied upon to perform their tasks accurately or completely. Serious injury or death to a number of people. Major equipment damage.	4
Major	A significant reduction in safety margins, a reduction in the ability of organisations to cope with adverse operating conditions as a result of an increase in workload, or as a result of conditions impairing their efficiency. Serious incident. Injury to persons.	3
Minor	Nuisance. Operating limitations. Use of emergency procedures. Minor incident.	2
Negligible	Little consequence.	1

Likelihood of Occurrence

Quantitative Definition	Meaning	Value
Frequent (1 to 10^{-3} per hour)	Likely to occur many times	5
Occasional (10^{-3} to 10^{-5} per hour)	Likely to occur sometimes	4
Remote (10^{-5} to 10^{-7} per hour)	Unlikely, but may possibly occur	3
Improbable (10^{-7} to 10^{-9} per hour)	Very unlikely to occur	2
Extremely improbable ($<10^{-9}$ per hour)	Almost inconceivable that the event will occur	1

Example Risk Tolerability Matrix

Severity						
Catastrophic	5	5 Review	10 Unacceptable	15 Unacceptable	20 Unacceptable	25 Unacceptable
Hazardous	4	4 Acceptable	8 Review	12 Unacceptable	16 Unacceptable	20 Unacceptable
Major	3	3 Acceptable	6 Review	9 Review	12 Unacceptable	15 Unacceptable
Minor	2	2 Acceptable	4 Acceptable	6 Review	8 Review	10 Unacceptable
Negligible	1	1 Acceptable	2 Acceptable	3 Acceptable	4 Acceptable	5 Review
		Extremely improbable	Improbable	Remote	Occasional	Frequent
		1	2	3	4	5

Likelihood

Risk Classification

Acceptable	The consequence is so unlikely or not severe enough to be of concern; the risk is tolerable. However, consideration should be given to reducing the risk further to as low as reasonably practicable in order to further minimize the risk of an accident or incident.
Review	The consequence and/or likelihood is of concern; measures to mitigate the risk to as low as reasonably practicable should be sought. Where the risk is still in the review category after this action then the risk may be accepted, provided that the risk is understood and has the endorsement of the individual ultimately accountable for safety in the organisation.
Unacceptable	The likelihood and/or severity of the consequence is intolerable. Major mitigation will be necessary to reduce the likelihood and severity of the consequences associated with the hazard.

5.2.3 **Risk Mitigation**

Risks should be managed to as low as reasonably practicable. Risk must be balanced against the time, cost and difficulty of taking measures to reduce or eliminate the risk. The level of risk can be lowered by reducing the severity of the potential consequences, reducing the likelihood of occurrence or by reducing exposure to that risk. Corrective action will take into account any existing defences and their inability to achieve an acceptable level of risk. Corrective action should be subject to further risk assessment as outlined in paragraph 5.2.2 above, in order to determine that the risk is now acceptable and that no further risk has been introduced into operational activities. Risk mitigations and controls will need to be verified / audited to ensure that they are effective.

5.3 **Internal Safety Investigations**

The scope of internal safety investigations should include occurrences that are not required to be investigated or reported to the HCAA. Though often of a supposed minor nature, they could be indicative of a potential hazard or trend that would only be revealed through systematic investigation and data analysis, ideally undertaken by trained investigators.

5.3.1 **Scope of Safety Investigations**

The scale and scope of any investigation should be suitable to determine why an event occurred and validate or identify the underlying hazards. The level of investigation should be proportional to the identified hazard and risk.

5.3.2 **Investigation Methodology**

The investigation process should take place as soon as possible after the event. The objective of the investigation is to understand why an event happened and the contributing causes and not to apportion blame. The investigation may include:

(a) Review of documentation and processes;
(b) Operational data monitoring;
(c) Interviews;
(d) Data analysis.

5.3.3 **Safety Recommendations**

An organisation should have procedures to communicate the results of any safety investigations and where appropriate to address hazards as outlined in paragraph 5.2 above. This should include incorporating lessons learnt into policies and procedures.

6. SAFETY ASSURANCE

Safety assurance assesses the safety performance of the organisation and enables continuous improvement. The three aspects of safety assurance are:

(a) Safety performance monitoring, measurement and review;
(b) The management of change;
(c) Continuous improvement of the safety system.

6.1 Safety Performance Monitoring and Measurement

Safety performance monitoring and measurement is the process by which the safety performance of the organisation is verified in comparison to its safety policies and objectives. This process should include:

(a) Safety reporting;
(b) Safety studies;
(c) Safety reviews including trend analysis;
(d) Internal safety audits;
(e) Surveys;
(f) Internal safety investigations.

6.1.1 Safety audits are used to ensure that the structure of the SMS is sound in terms of:

(a) Adequate staff levels;
(b) Compliance with approved procedures and instructions;
(c) Levels of competency and training to carry out specific roles;
(d) Maintaining required levels of performance;.
(e) Achievement of the safety policy and objectives;
(f) Effectiveness of interventions and risk mitigations.

6.1.2 Safety and cultural surveys examine particular elements or processes of a specific operation and may involve the use of:

(a) Checklists;
(b) Questionnaires;
(c) Informal confidential interviews.

Survey information is subjective and should therefore be verified before any corrective action is initiated but may provide an inexpensive source of safety information. Cultural surveys allow an organisation to identify behaviours and attitudes of staff that may help determine latent conditions that can affect an organisation's SMS.

6.2 The Management of Change

The Management of Change should be a formal process that identifies external and internal change that may affect established cultures, processes and services. It utilises the organisation's existing risk management process to identify potential hazards that will ensure that there is no adverse effect on

safety. Change can introduce new hazards that could impact the appropriateness and effectiveness of any existing risk mitigation.

6.3 Continuous Improvement of the SMS

The organisation should continually seek to improve their safety performance. Continuous improvement should be achieved through:

(a) Proactive evaluation of day to day operations, facilities, equipment, documentation and procedures through safety audits and surveys;
(b) Evaluation of an individual's performance to verify the fulfilment of their safety responsibilities;
(c) Reactive evaluations in order to verify the effectiveness of the system for control and mitigation of risk e.g. incidents, accidents and investigations;
(d) Tracking organisational changes to ensure that they are effective.

7. SAFETY PROMOTION

7.1 Training and Education

All staff should receive safety training as appropriate for their safety responsibilities. In particular all Operational Staff, Managers, Supervisors, Senior Managers and the Accountable Manager should be trained and be competent to perform their duties. This provides an opportunity to reinforce the safety policy, gain the necessary management buy-in and for establishing the expected attitudes and behaviours for all levels of staff in the organisation. This should involve initial training as well as continued maintenance of competence. Training should include human and organisational factors

Operational Staff should have an understanding of the organisation's safety policy and principles and an overview of the fundamentals of SMS.

In addition, Managers and Supervisors should understand the safety process, hazard identification, risk management and the management of change.

In addition to the above, Senior Managers should understand organisational safety standards, safety assurance and the regulatory requirements for their organisation.

The Accountable Manager should have an awareness of SMS roles and responsibilities, safety policy, safety culture, SMS standards and safety assurance.

7.2 Safety Communication

Safety communication is an essential foundation for the development and maintenance of an adequate safety culture. Types of communication may include:

(a) Safety policies and procedures;
(b) News letters, safety bulletins and notices;
(c) Presentations;
(d) Websites and e-mails;
(e) Informal workplace meetings between staff and the Accountable Manager or Senior Managers.

7.2.1 Safety communication should:

(a) Ensure that all staff are fully aware of the SMS and the organisation's safety culture;
(b) Disseminate safety critical information internally and externally;
(c) Explain why certain actions are taken;
(d) Explain why safety procedures are introduced or changed;
(e) Compliment and enhance the organisation's safety culture;
(f)) Contain a process for assessing the suitability of safety communication and its effect on the organisation.

Attachment 2

SMS Guidance for Small Non-Complex Organisations

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2 **What is a Safety Management System?**

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1. WHY DO I NEED A SAFETY MANAGEMENT SYSTEM?

In recent years our understanding of how accidents and incidents happen has improved. More emphasis is now placed on the causal factors involved and the organisational factors that contribute to errors being made. Organisational factors include how an organisation operates, how it sets out its procedures, how it trains its staff and what level of importance it gives to safety issues identified within the organisation.

A Safety Management System (SMS) allows you to take a proactive approach to safety by identifying some of these causal factors and taking action before an event happens. SMS helps you to have a greater understanding of the hazards and risks affecting the safety of your organisation. These hazards and risks could have a severe impact on your organisation in terms of financial cost and reputation. An SMS is an effective way to take your organisation beyond compliance with the regulations.

The International Civil Aviation Organization (ICAO) requires organisations to have an SMS. In the near future the European Aviation Safety Agency (EASA) will also mandate organisations that fall within its scope to have an SMS in place.

2. WHAT IS A SAFETY MANAGEMENT SYSTEM?

An SMS is an organised approach to managing safety. It sets out the organisation's structure, identifies the accountabilities and responsibilities of key staff members and documents the policies and procedures to manage safety effectively. An effective SMS allows the hazards and risks that could affect your organisation to be identified, assessed and prioritised so that appropriate mitigation measures can be put in place to reduce the risks to as low as reasonably practicable (ALARP).

A risk may be described as ALARP if you have taken all reasonable action to mitigate the risk and the cost (in terms of time, effort and money) of taking further action would be 'grossly disproportionate' to any further reduction in the level of risk. Reducing a risk to ALARP does not mean that the risk has been eliminated as some level of risk still remains; however, the organisation has accepted the risk.

There is a lot of advice and guidance on SMS already available. Whilst you may find it useful to review this material, small organisations are encouraged to use this document in conjunction with ICAO Document 9859 Safety Management Manual as their principal sources of guidance on SMS.

3. HOW IS A SMALL ORGANISATION DEFINED?

This guidance material is written for small, non-complex organisations. Whether or not this guidance material is suitable for your organisation will depend on various factors including the size, complexity and level of risk associated with your activities. Organisations should liaise with your assigned regulatory point of contact to confirm whether this guidance material is suitable for you.

Factors to consider include:

- Number of employees
- Number and complexity of aircraft types operated or maintained
- Number of bases
- Number of aircraft movements
- Number of approvals and ratings held
- Length of runway
- Instrument arrival or departure procedures
- Environmental factors

Implementing an SMS may initially appear to be a daunting task, however, it is likely that some of the key elements that make up an SMS are already in place, but perhaps not formalised or clearly documented. The structure and content of an SMS should be essentially the same for any organisation but the level of detail should reflect the size, complexity and level of risk faced by your organisation. It is important to realise that there is no "one size fits all" in terms of SMS development and implementation; what is important is to develop an SMS that works for your organisation and is effective.

4. WHAT ARE THE KEY COMPONENTS AND ELEMENTS OF AN SMS?

This guidance material describes the key elements of an SMS. We have also included key points that will help you implement your SMS.

The four key components are further divided into twelve elements:

1. **Safety Policy and Objectives**
   • Management commitment and responsibility
   • Safety accountabilities
   • Appointment of key staff members
   • Emergency response planning
   • SMS documentation

2. **Safety Risk Management**
   • Hazard identification
   • Risk assessment and mitigation

3. **Safety Assurance**
   • Safety performance monitoring and measurement
   • Management of change
   • Continuous improvement

4. **Safety Promotion**
   • Training and education
   • Safety communication

An effective SMS requires all these elements to be in place. To what degree these elements are in place will depend on the size and complexity of your organisation, and also the maturity of your SMS. As this guidance material is generic and intended for all smaller non-complex organisations, how you implement these key components will depend on your particular circumstances.

5. SAFETY POLICY AND OBJECTIVES

5.1 Management commitment and responsibility

For your SMS to be effective it will require the allocation of both time and resources. It requires the senior management to show commitment and take responsibility for your organisation's SMS. Without this the SMS will not function effectively.

The management's commitment to safety should be expressed in a written safety policy. The policy should set a clear, high-level direction for your organisation to follow in order to manage safety effectively and should be endorsed by the Accountable Manager.

The safety policy should be read and understood by all staff members and be reflected in actions as opposed to impressive words just cut and pasted into a document. The Accountable Manager should actively demonstrate his or her commitment to the policy. This will help contribute to the creation of a positive safety culture within your organisation, which is essential to the success of your SMS. With a positive safety culture all staff members should be responsible for safety, and consider the safety implications of everything they do.

Key Point: Your safety policy should be individual, reflecting your organisation. As a minimum it should:

- *Outline your organisation's fundamental approach to safety;*
- *Show a senior management commitment to safety;*
- *Show a commitment to provide adequate resources to manage safety effectively and to reduce risks to 'as low as reasonably practicable;*
- *Encourage all staff members to actively participate in and fulfill all aspects of the SMS;*
- *Encourage a positive safety culture within the organisation.*

An example of a safety policy showing the level of detail required can be found in Appendix A to this guidance material.

5.2 Safety accountabilities

Your organisation's management structure should be clearly defined. For small organisations this structure may be fairly simple and consist of the person in charge (Accountable Manager) and other key staff members who have a role in how the organisation is managed on a day-to-day basis. The accountabilities and responsibilities of the Accountable Manager and key staff members should be clearly

understood.

The Accountable Manager should normally be the person ultimately accountable for safety and who is involved in the day-to-day management of the organisation. It is essential that the Accountable Manager has the authority and budgetary control to make safety related decisions and take any appropriate actions to maintain safety.

Key Point: The responsibility for safety issues can be delegated as appropriate, however, the Accountable Manager remains ultimately accountable for safety within the organisation at all times.

Key Point: Small organisations should complete an organisational chart showing the key positions with their responsibilities and the lines of accountability within the organisation.

5.3 Appointment of key staff members

Your organisation should identify an individual who is the focal point for the SMS. In small organisations this task may be carried out by the Accountable Manager or delegated to a member of staff as a part-time role as appropriate.

Key Point: A person in your organisation should have the role of managing the SMS and report directly to the Accountable Manager.

Depending on the size of your organisation, the SMS focal point may need to be supported by a Safety Committee. For a small organisation a Safety Committee could consist of a few key members of staff and appropriate people from other organisations or groups that interface with your organisation.

Key Point: It is important that the relevant people both within your organisation and those that interface with it, meet to discuss safety related issues on a regular basis.

5.4 Emergency response planning

An Emergency Response Plan (ERP) should be established that describes the actions to be taken by staff in an emergency. Many small organisations will already have an ERP as part of their licensing requirements and you should continue to comply with these requirements.

As a minimum the ERP should describe procedures for:

- An orderly transition from normal to emergency operations;
- Designation of emergency authority (who will take charge out of hours or at the weekend?);
- Assignment of emergency responsibilities (what happens when that person is away or on leave?);
- Coordination of efforts to resolve the emergency (who is going to call the emergency services?);
- Safe continuation of operations or return to normal operations as soon as practicable.

The ERP should identify the responsibilities, roles and actions for staff members involved in dealing with emergencies within your organisation and consider any outside agencies or third party contractors affected. For some organisations there may be regulatory requirements already set for the ERP or contingency planning.

Key Point: The ERP should be available and understood by all key staff members and practiced on a regular basis to ensure that everyone is aware of their responsibilities and required actions and are competent to carry out appropriate actions in an emergency.

Key Point: Laminated cards or checklists with appropriate contact numbers could be held by key staff members to assist them in the actions required during an emergency.

Key Point: It is important to coordinate your ERP with other organisations that you interface with, including the emergency services that may attend an emergency and third party organisations that are contracted to your organisation.

5.5 SMS documentation and control

All aspects of your SMS should be clearly documented in order to keep an accurate record of why decisions were made, why actions were taken and why any changes were implemented. Your documentation should be controlled and in a suitable format so that it can be clearly understood by staff members in your organisation, any third party organisations that are contracted to work with you and the CAA. Templates and examples are provided in the appendices to this guidance material that may be useful. Clear documentation will also allow your SMS to be easily audited or assessed.

As a minimum, SMS documentation should include:

- The safety policy and objectives of the SMS;
- The accountabilities and responsibilities of the Accountable Manager and key staff members;
- Any safety-related processes, procedures or checklists;
- The results and subsequent actions from any safety audits or assessments;
- The results of any risk assessments and mitigation measures in place;
- A hazard log (an example of a hazard log/risk assessment can be found in Appendix B to this guidance material).

You may find it useful to create a separate SMS manual for your organisation or it may be easier to document your SMS within existing manuals. An example of a contents page for an SMS manual can be found in Appendix C to this guidance material. Other documents may be held either as hard copies or electronically. However you keep a record of your SMS, the system should be reliable and secure, for example information technology systems should be backed up and protected from damage and enable easy access and retrieval of this information.

6 SAFETY RISK MANAGEMENT

6.1 Introduction to safety risk management

The safety risk management process starts with identifying the hazards affecting the safety of your organisation and then assessing the risks associated with the hazards in terms of likelihood (what is the likelihood of the risk happening?) and severity (if the risk occurs how bad will it be?). Once the level of risk is identified, appropriate remedial action or mitigation measures can be implemented to reduce the level of risk to as low as reasonably practicable. The implemented mitigation measures should then be monitored to ensure that they have had the desired effect.

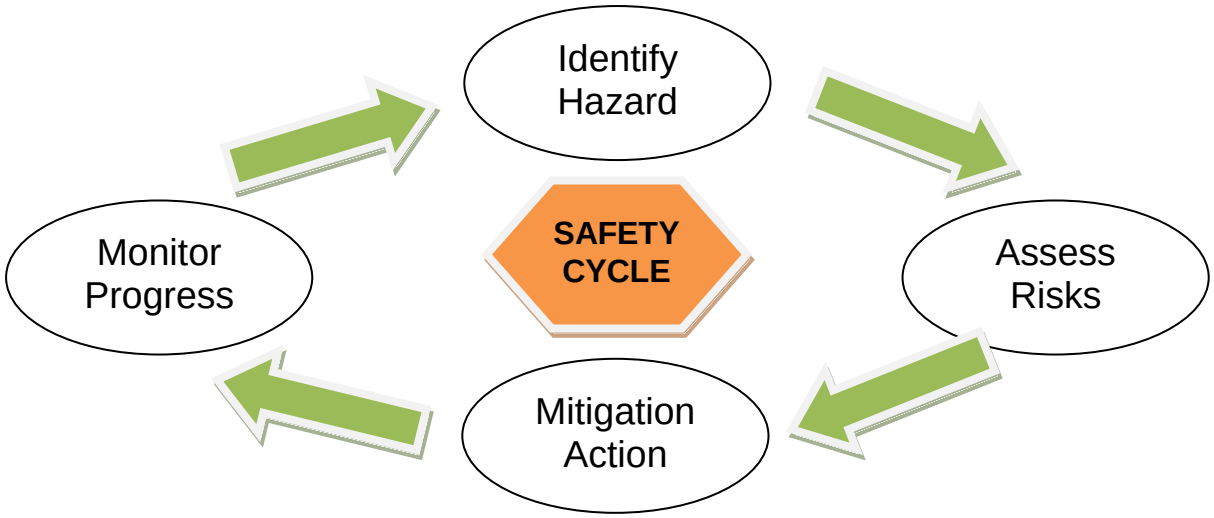

Figure 1 Simple safety risk management process

A **Hazard** is simply defined as a condition, event or circumstance that has the potential to cause harm to people or damage to aircraft, equipment or structures.

A **Risk** is defined as the potential outcome from the hazard and is usually defined in terms of the likelihood of the harm occurring and the severity if it does.

For example:

A thunderstorm is a hazard to aircraft operations. One associated risk with this hazard is that an aircraft is struck by lightning and suffers a failure of the electrical system on the aircraft.

Bird activity in or around an aerodrome is a hazard to aircraft operations. One risk associated with this hazard is that a bird strike causes an aircraft engine to fail and the aircraft crashes.

In general a hazard is around in the *present* whereas the risk associated with it is a potential outcome in the *future.*

6.2 Reporting systems

Hazards can only be controlled if their existence is known. Through a safety reporting system, underlying situations or conditions that have the potential to endanger the safety of aircraft operations can be identified. Safety reporting can be reactive (from an event that has happened) or proactive (from a potentially unsafe situation being identified) or predictive (trying to predict what might happen in the future).

Internal voluntary reporting of less significant incidents, which may not necessarily be required to be reported under the CAA Mandatory Occurrence Reporting (MOR) scheme but are very useful to your organisation, should be actively encouraged. Greater levels of reporting, even what may be classified as minor issues, will allow you to monitor the safety performance of your organisation and to identify developing safety trends.

All staff members within your organisation and staff members of other organisations that interface with you need to actively participate in the safety reporting system. All stakeholders and users need to be clear about how to report, what to report and who to report to. Information from the reports can then be used to identify safety risks so that appropriate action can be taken. An example of a suitable template for an internal Safety Reporting Form can be found in Appendix D to this guidance material.

The reporting system should use the information provided to enhance safety rather than to apportion any blame if genuine errors or mistakes have been made. To encourage reporting without fear of repercussion it is important that staff members feel that there is an open and just culture within your organisation. It is also important that adequate feedback is given to the person reporting an incident.

Key Point: It is important to remember that hazard identification is not a static, one- off process; it needs to be performed whenever you plan an organisational change, your organisation is undergoing rapid expansion or contraction, you introduce new equipment or procedures, changes to key staff members are taking place or whenever you think there is a possibility that a new risk may be created.

Key Point: To encourage staff to report potential hazards your organisation should have a safety reporting system that is just, confidential, simple and convenient to use. In a just safety reporting system, employees should not be punished for unpremeditated or inadvertent errors or lapses. Instead the reasons for the errors or lapses should be investigated so that safety lessons can be learnt.

6.3 Hazard identification

A hazard identification process is the formal means of collecting, recording, analysing, acting on and generating feedback about hazards that affect the safety of the operational activities of your organisation. In a mature SMS hazard identification is an ongoing process.

There are many ways of identifying hazards and depending on the size of your organisation, the following methods may be useful:

- Brainstorming, where your Safety Committee or small groups meet to identify possible hazards;
- Data from previous accidents and incidents;
- Mandatory/voluntary incident reporting schemes (internal and external);
- Internally or externally conducted safety assessments/audits;
- Safety information from external sources; i.e. similar organisations, media, HCAA etc.
- Generic hazard checklists.

6.4 Risk assessment and mitigation

The purpose of the risk assessment process is to allow your organisation to assess the level of risk associated with the identified hazards in terms of the potential harm. Risks should be assessed in terms of severity and likelihood. Once you have assessed the risk in terms of severity and likelihood, a simple risk assessment matrix can be used to determine the overall level of risk. Depending on the level of risk, appropriate mitigation measures can be taken to either eliminate the risk or reduce the risk to a lower level or as low as reasonably practicable, so that it is acceptable to your organisation. Mitigation measures should be implemented to reduce the likelihood of the risk occurring or reduce the severity of the outcome if it does.

The assessment process also allows the risks to be ranked in order of risk potential so that priorities can then be established and resources can be targeted more effectively at the higher-level risks. Figure 2 shows a simple risk assessment process and an example of how the process could work is shown in Appendix B to this guidance material.

Key Point: It is important to include people with the relevant expertise and experience in the risk assessment process to ensure the robustness of the process. All risk assessments are reliant on the quality of the information used to make the assessment, and the knowledge of the people conducting the assessment.

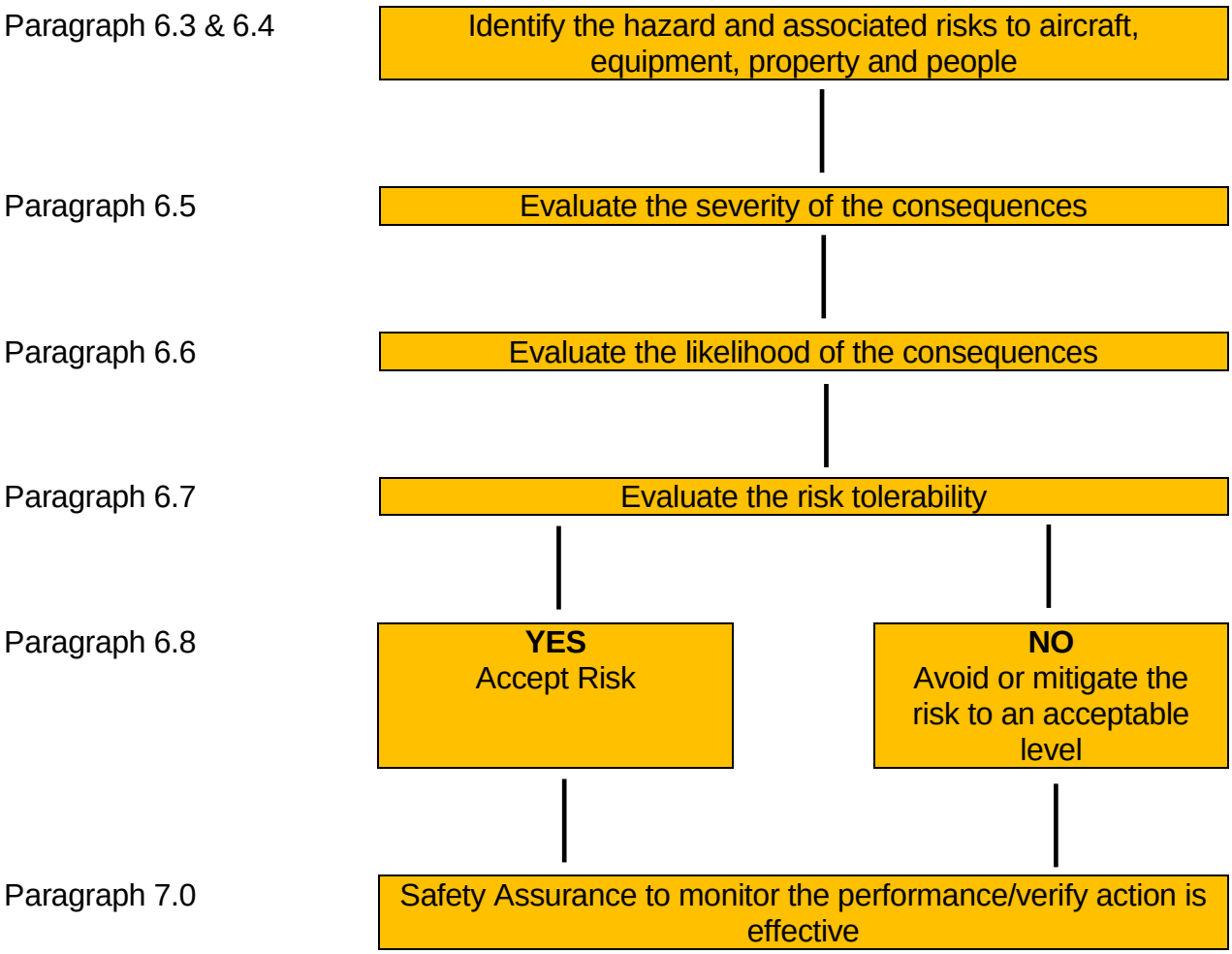

Figure 2 Simple risk management process

The risk assessment process starts with identifying the risk(s) associated with the hazards you have previously identified. There may be more than one risk associated with a particular hazard and a risk assessment may need to be conducted for each risk.

6.5 Risk severity

The risk will need to be assessed in terms of its severity (if it happens how bad will it be?). In order to assess the severity you should take into account any mitigation measures that are currently in place to reduce the severity. You should assess the severity in terms of the worst possible realistic scenario.

To help assess the severity you should ask the following questions:

- Would lives be lost (employees, passengers, by-standers)?
- What is the likely extent of property or financial damage?
- What is the likelihood of environmental impact (fuel spillage, physical disruption to

the natural habitat)?
- What are the likely commercial implications or media interest?
- Would there be a loss of reputation?

To help define the severity Appendix B, Figure 2 gives an example of a severity table that could be used, or you may decide to define the severity in another way.

6.6 Risk likelihood

The risk will also need to be assessed in terms of its likelihood (what is the likelihood of the risk occurring?). In order to assess the likelihood you should take into account any mitigation measures that are currently in place to reduce the likelihood. Defining the likelihood is sometimes more difficult as it is not an exact science. It will rely on a logical, common sense analysis of the risk to arrive at a reasonable answer.

To help assess the likelihood you should ask the following questions:

- Is there a history of similar occurrences (either in your organisation or in other organisations known to you) to the one under consideration, or is this an isolated occurrence?
- What other aircraft, equipment or components of the same type might have similar defects?
- How many people are involved and how frequent is the activity?

To help define the likelihood Appendix B, Figure 3 gives an example of a likelihood table that could be used, or you may decide to define the likelihood in another way.

6.7 Risk tolerability

When the severity and likelihood have been defined, a Risk Tolerability Matrix can then be used to assess how tolerable the risk is. An example of a Risk Tolerability Matrix can be found in Appendix B, Figure 4.

Using a risk tolerability matrix the risk can then be classified as either acceptable, to be reviewed or unacceptable allowing a suitable risk mitigation strategy to be developed if required. **Unacceptable:** If the risk is unacceptable, the operation or activity should stop immediately or not take place. Major mitigation will be necessary to reduce the severity if the risk actually occurs or reduce the likelihood of the risk occurring. Normally it is the likelihood of the occurrence that can be reduced rather than the severity.

Review: If the risk falls into the review category, the severity or likelihood of occurrence is of concern; measures to mitigate the risk to as low as reasonably practicable (ALARP) should be sought. Where the risk is still in the review category after this action has been taken it may be that the cost of actions required to reduce the risk further are too prohibitive. The risk may be accepted, provided that the risk is understood and has the endorsement of the Accountable Manager.

Acceptable: If the risk is acceptable the consequence is so unlikely or not severe enough to be of concern; the risk is acceptable. However, consideration should still be given to reducing the risk further.

6.8 Risk mitigation

If the level of risk falls into the unacceptable or review categories, mitigation measures will be required to reduce the risk to a level as low as reasonably practicable (ALARP).

Mitigation measures are actions or changes, such as changes to operating procedures, equipment or infrastructure, to reduce either/both the severity and/or the likelihood.

Generally risk mitigation strategies fall into three categories:

Avoidance: The operation or activity is cancelled or avoided because the safety risk exceeds the benefits of continuing the activity, thereby eliminating the risk entirely.

Reduction: The frequency of the operation or activity is reduced or action is taken to reduce the magnitude of the consequences of the risk.

Segregation: Action is taken to isolate the effects of the consequences of the risk or build in redundancy to protect against them.

For example: For aircraft operations into an aerodrome without the necessary ground navigation aids and surrounded by high mountains there is a risk that an aircraft could crash into the high ground. Action to mitigate the risk could include:

Avoidance: Cancel all operations to the aerodrome (eliminates both the severity and likelihood);

Reduction: Limit operations to the aerodrome in daylight only (reduces the likelihood);

Segregation: Operations to the aerodrome are limited to aircraft equipped with additional

6.9 Hazard log

Any identified safety hazards, risk assessments and subsequent follow up actions need to be clearly documented. An acceptable way to do this is by creating a hazard log or risk register. The log or register should include each identified hazard, the associated risk(s), results of the risk assessment taking into account any current mitigation measures in place, further risk mitigation measures if required and a re-assessment of the risk once the mitigation measures have been implemented, to assess whether they have achieved the desired outcome. The hazard log is a working document and should be reviewed regularly, especially during any Safety Committee meetings. The hazard log forms part of your organisation's SMS documentation. Examples of a suitable hazard log and risk assessment can be found in Appendix B to this guidance material.

7. SAFETY ASSURANCE

7.1 Introduction to safety assurance

Safety assurance monitors the performance and effectiveness of your SMS. This will ensure that your hazard identification, risk assessment and mitigation process is being followed effectively and that appropriate mitigation measures are being implemented and working as intended.

Key Point: The safety assurance element gives confidence that for all identified hazards the mitigation measures applied are implemented and achieve their intended objectives.

7.2 Safety performance monitoring and measurement

For your organisation to manage safety performance you need to measure it in some way and for that you need safety data. The first step is to identify what safety performance indicators (SPI) will be used. An SPI is a measure of how safe your organisation is. What SPIs you measure will depend on your particular organisation but some examples are given below.

7.3 Sources of safety data

Sources of safety data that can be used as SPIs include the number of:

Hazard and incident reports;
Warranty claims and customer complaints;
MORs, such as runway incursions or bird strikes;
Customer/contractor surveys;
Safety survey or safety audit findings; AAIB reports.

Safety performance targets may be difficult to define and it will be more important to investigate individual events and look for trends in the limited data available. A review of events/incidents/accidents elsewhere, such as AAIB reports and reports from other similar organisations may also prove useful.

7.4 The management of change

The operation of your organisation is dynamic and changes will frequently occur. A simple process should be introduced to help identify potential hazards and to assess the safety impact of any significant changes made. Changes include the introduction of new equipment, changes to facilities or scope of work, introduction of new aircraft or routes, new contracted services, new procedures or changes to key staff members. Are your existing procedures and documentation adequate or do they need to be amended? Have staff members received adequate training and are your organisation's user groups aware of any changes?

7.5. Incident management

Incidents will inevitably occur and these can provide a valuable learning opportunity for your organisation. In an effective SMS a process should be in place to learn from any incident and implement any changes that may be required. Therefore, your organisation should establish a process to ensure that each incident/accident is investigated. The level of investigation should reflect the significance of the event. The investigation should include what happened, when, where, how and who was involved. It should also try to understand why. It is important to establish the facts and avoid speculation.

Key Point: You should try to be objective, it's about finding out why it happened to prevent it recurring rather than finding someone to blame.

Key Point: Your Safety Committee should review the findings from all incidents and recommend improvements if required. Safety lessons should be shared both within your organisation and those relevant organisations that you interface with.

7.6 Continuous improvement of the SMS

Your SMS should be an integral part of your organisation. It should be dynamic rather than static and it should aim to continually improve the safety performance of your organisation.

7.7 Safety assurance and compliance monitoring of the SMS

As part of your SMS there will be a need to establish a compliance monitoring function (for certain organisations this would be part of a Quality Management System). The compliance monitoring function is ideally an independent assessment to assure that the SMS is effective and working.

This requires monitoring of the following:

- A review of how your organisation complies with the published requirements for an SMS;
- Verification that the mitigations and controls that have been put into place to control identified hazards are robust and effective;
- An assessment of the effectiveness of the procedures and processes in your SMS Manual as described, and how they are implemented and practiced.

There should be a closed loop process to ensure identified problems are corrected. Audits should also include assessments of other organisations that interface with your organisation and could affect safety.

Key Point: In a small organisation where everyone may be involved in the SMS it will be challenging to establish an independent review or audit. In such cases independent external auditors could be sought or arrangements made with other external organisations.

Key Point: As the compliance monitoring system helps to monitor the safety

performance of the organisation it is important that the Accountable Manager is involved and monitors the system and what it reveals.

Key Point: As an approved organisation there may be specific requirements that dictate what is acceptable as a compliance monitoring system and this guidance should be read in context with those specific requirements.

8. SAFETY PROMOTION

8.1 Safety training and education

Everyone within your organisation has a responsibility for aviation safety. It is important that all staff members are competent to carry out their safety roles and responsibilities. This is achieved through training and ongoing assessment of individuals. This training should include the organisation's SMS, safety policy, reporting procedures, safety responsibilities and how individuals can contribute at all levels. Safety training should include periodic refresher training.

Key Point: For all staff members, a record of their training should be held.

Key Point: Effective safety promotion should result in all staff being actively encouraged to identify and report hazards.

Key Point: All staff should be aware of the safety hazards connected with their duties.

Key Point: Lessons arising from investigations should be disseminated effectively.

8.2 Safety communication

It is important that all staff members, either employed or volunteers, are fully aware of the SMS and any safety matters affecting your organisation. Relevant safety information should also be distributed to other users and contractors working for your organisation.

Effective communication ensures that all staff members are fully aware of the SMS including safety-critical information related to analysed hazards and assessed risks. All staff members should understand why particular actions are taken and why safety procedures are introduced or changed.

Regular staff meetings where information, actions and procedures are discussed may be used for the purpose of communication on safety matters.

Key Point: This can easily be achieved through meetings, safety bulletins, information sheets or newsletters clearly displayed in prominent positions or distributed via post, e-mail and on your organisation's website. Efforts should be made to share best practice and relevant safety-related information with other similar organisations.

9 HOW DOES MY ORGANISATION IMPLEMENT AN EFFECTIVE SMS?

9.1 Gap analysis

The previous sections have described the basic component parts that make up an SMS. Most organisations will already have some of these components in place. It is also not expected that your SMS will be fully functioning overnight; it will take time and effort to integrate these SMS components into your organisation for them to be fully effective.

It is recommended that you assess your organisation to identify what components are in place and what components need to be implemented or strengthened. A "Gap Analysis" is a useful method to achieve this. To help you assess each component within your organisation a set of assessment questions is provided in Appendix E to this guidance material.

9.2 Implementation plan

From your gap analysis an implementation plan can then be developed to implement the remaining relevant components over time in a logical and structured way. Although your plan should have an implementation timeline you should be realistic, as you will find certain components more difficult to implement than others.

Remember:

- A mature SMS will take time to fully implement.
- It is important that all staff members should have the opportunity to contribute to the development of the SMS.
- If in doubt contact your HCAA Inspector or Surveyor for advice.

Appendix A

Example safety policy

Safety is a prime consideration at all times within ……

As the Accountable Manager it is my responsibility to ensure the safety of all our operations and services.

I will ensure that adequate resources are provided to manage safety effectively.

We encourage all our staff and stakeholders to report safety events or potential hazards however insignificant they may consider them at the time.

We have an open reporting culture that encourages free and frank reporting through a just culture.

We strive to achieve:

- *An accident free environment*
- *An effective safety management system and continuous improvement*
- *Full compliance with the statutory national and international regulations that apply to us that include …….. (Part 145, EU OPS, etc)*
- *A commitment to reduce risks to as low as reasonably practicable*

These objectives are for the benefit of the company, its employees and its customers. To this end we have a shared responsibility to achieve these aims.

Safety is everyone's responsibility.

Signed by Accountable Manager

(Signed)

Appendix B

Example hazard log and risk assessment

Date: ……
Owner: ……. **Contact:** ……..
Participants: …… (Accountable Manager), …….. (Chief Pilot), …… (Chief
Engineer), ……. (Mechanic), ……(Private pilot) etc
Reported by: …… **Contact:** ……..
Date Reported: ……
MOR filed (yes/no): ……
Follow up review date: …….

Identified Hazard	Associated Risk	Existing Mitigation Measures in Place	Current Level of Risk	Further Mitigation Measures	Revised Level of Risk	Action By
Incorrect maintenance action: Wire locking missing from aileron system connecting rod. (Safety report form number 46).	*Connecting rod detaches causing loss of control rod bolt.*	*Aircraft Service Manual instruction to wire lock the connecting rod bolt.*	*Severity 5 Likelihood 3* ***Unacceptable***	*Reiterate Adherence to Aircraft Service Manual and Independent Inspections.* *Introduction of staged worksheets for breakdowns.* *Implementation of a Maintenance Error Management System (MEMS).*	*Severity 5 Likelihood 2* ***Review***	*K.Kostidis*

Figure 1 Example hazard log and risk assessment

Example hazard identification and risk assessment process for a small aircraft maintenance organisation:

Identifying a hazard: Small Aircraft Maintenance Ltd is an organisation performing maintenance on fixed wing aircraft below 2730 kg. During routine maintenance an engineer found wire locking missing on the attachment bolt of a connecting rod for the aileron system. He reported the finding on a safety report form (Appendix D). An incident investigation was carried out which concluded that the error occurred during an aircraft maintenance check some weeks before. The error occurred due to time pressure because the aircraft maintenance check was running late and the aircraft was required for a flight. Since then the aircraft had completed a number of sectors.

Associated risk: The Safety Committee of Small Aircraft Maintenance Ltd comprises the Accountable Manager, Chief Engineer, Chief Pilot, a private pilot and an engineer. The Safety Committee reviewed the safety report form and a risk assessment was carried out (Figure 1). The Safety Committee defined the hazard as incorrect maintenance action and identified a possible risk of the connecting rod becoming detached causing a loss of control of the aircraft.

Existing mitigation: The mitigation measures in place to stop the connecting rod becoming detached included a maintenance manual reference to wire lock the bolt in place and a requirement for a duplicate inspection.

Determining the current level of risk: The next stage was to determine the level of risk associated with the connecting rod becoming detached. How severe would it be if it happened and what was the likelihood of it happening?

Severity: Using the table in Figure 2 the severity was determined. It was relatively straightforward to determine that failing to wire lock the aileron connecting rod bolt could realistically lead to the connecting rod becoming detached, causing a loss of control and an aircraft accident. Although there were no previous similar incidents at Small Aircraft Maintenance Ltd, the Safety Committee were aware of previous accidents involving incorrect maintenance or critical aircraft systems. Therefore the severity was determined to be catastrophic (Severity Value 5).

SEVERITY OF CONSEQUENCES		
Aviation definition	**Meaning**	**Value**
Catastrophic	Results in an accident, death or equipment destroyed	5
Hazardous	Serious injury or major equipment damage	4
Major	Serious incident or injury	3
Minor	Results in a minor incident	2
Negligible	Nuisance of little consequence	1

Figure 2 Risk severity classifications

Determining the likelihood: Using the table in Figure 3 the likelihood of the connecting rod becoming detached was determined and this was more subjective. Determining the likelihood should be based on any current mitigation measures in place and the effectiveness of those measures related to the risk identified. The existing mitigation measures to stop the connecting rod becoming detached included an aircraft service manual instruction to wire lock the connecting rod bolt and a requirement for a duplicate inspection.

On this occasion both mitigation measures failed and although this sort of error is relatively rare there was evidence to support a conclusion that the likelihood of the connecting rod becoming detached in this particular case was *Remote* (Likelihood Value 3).

Example hazard log and risk assessment

LIKELIHOOD OF OCCURRENCE		
Qualitative definition	**Meaning**	**Value**
Frequent	Likely to occur many times	5
Occasional	Likely to occur sometimes	4
Remote	Unlikely to occur but possible	3
Improbable	Very unlikely to occur	2
Extremely improbable	Almost inconceivable that the event will occur	1

Figure 3 Risk likelihood classifications

Determining the risk tolerability: Using the risk assessment matrix in Figure 4, if the risk is determined to be *Catastrophic (5)* and *Remote (3)* the risk would be classified in the *Unacceptable* category.

Risk probability	Risk Severity				
	Catastrophic 5	Hazardous 4	Major 3	Minor 2	Negligible 1
Frequent	Unacceptable	Unacceptable	Unacceptable	Review	Review
Occasional	Unacceptable	Unacceptable	Review	Review	Review
Remote	Unacceptable	Review	Review	Review	Acceptable
Improbable	Review	Review	Review	Acceptable	Acceptable
Extremely Improbable	Review	Acceptable	Acceptable	Acceptable	Acceptable

Figure 4 Risk Tolerability Matrix

UNACCEPTABLE: The risk is unacceptable and major mitigation measures are required to reduce the level of risk to as low as reasonably practicable.
REVIEW: The level of risk is of concern and mitigation measures are required to reduce the level of risk to as low as reasonably practicable. Where further risk reduction/mitigation is not practical or viable, the risk may be accepted, provided that the risk is understood and has the endorsement of the Accountable Manager.
ACCEPTABLE: Risk is considered acceptable but should be reviewed if it recurs.

Further mitigation measures: As the risk was in the *Unacceptable* category, major mitigation measures were required to reduce the level of risk to as low as reasonably practicable. The Safety Committee identified a number of further mitigation measures (see Figure 1, further mitigation measures).

Revised level of risk: The risk was reassessed in terms of severity and likelihood taking into account the further mitigation measures introduced. With the new measures in place although the severity remained the same the conclusion was that the likelihood of the risk occurring was now *Improbable (2)*.

Using the risk assessment matrix in Figure 4, with the risk severity determined to be *Catastrophic (5)* and the likelihood of occurrence determined to be *Improbable (2),* the risk was now classified in the *Review* category. Although the Safety Committee agreed that the risk had been mitigated to as low as reasonably practicable it was accepted that a level of risk still remained.

Safety assurance: As part of Small Aircraft Maintenance Ltd's safety assurance, the Safety Committee decided that all the critical flight control systems of aircraft they maintained should be inspected to see if there were any similar defects.

Safety training and communication: The Safety Committee also produced a Safety Bulletin to remind engineers of the importance of wire locking critical flight control systems and introduced a training session to highlight the new procedures for staged worksheets and the introduction of the Maintenance Error Management System (MEMS).

Appendix C

Example SMS manual contents page

1. Table of contents.
2. List of effective pages.
3. Distribution list.
4. Safety policy and objectives *(this section should include the safety policy signed by the Accountable Manager).*
5. Safety organisation *(this section should detail the management structure of theorganisation).*
   - 5.1 Scope of SMS and contracted activities *(this section should detail what the SMS covers and how it interfaces with other safety related parties).*
   - 5.2 Safety accountabilities and responsibilities *(this section should detail the key safety staff members and the safety committee and safety accountabilities and responsibilities of all key staff members).*
   - 5.3 Documentation of SMS *(this section should describe the way the SMS is documented and recorded).*
6. Hazard identification and risk management process *(this section should include the safety reporting and hazard identification process and how hazards and their risks are assessed and then managed and controlled).*
7. Safety assurance *(this section should include how the SMS and its outputs are audited. It should also include the safety performance monitoring and measurement process).*
8. Change management *(this section should detail how the organisation uses the SMS system to manage change).*
9. Emergency Response Plan *(this section should detail how the organisation would deal with an emergency situation and provide a quick reference guide for key staff members).*

Appendix D

Example safety reporting form

Part A to be completed by the person identifying the event or hazard

Date of event:…….. Local time:…….
Location:…….

Name of reporter……..Section / Organisation.…….

Please fully describe the event or identified hazard:
Include your suggestions on how to prevent similar occurrences.

In your opinion, what is the likelihood of such an event or similar happening or happening again?

Extremely improbable				Frequent
1	2	3	4	5

What do you consider could be the worst possible consequence if this event did happen or
happened again?

Negligible				Catastrophic
1	2	3	4	5

Example safety reporting form

Part B To be completed by the Safety Officer
The report has been dis-identified and entered into the company database.
Report reference……..
Signature…… Date:
Name……

Part C To be completed by the Safety Committee
Rate the likelihood of the event occurring or recurring:

Extremely improbable				Frequent
1	2	3	4	5

Rate the worst-case consequences?

Negligible				Catastrophic
1	2	3	4	5

What action or actions are required to ELIMINATE, MITIGATE or CONTROL the hazard to an acceptable level of safety?

Resources required: …….

Responsibility for Action: …….

Agreed and Accepted by	Safety Officer	Date……
	Responsible Manager	Date……
	Accountable Manager	Date……

Appropriate Feedback given to staff by Safety Officer
Signed Date……

Follow up action required: When
W ho
Hazard log updated: When

Appendix E

Self assessment questions

	Guidance Ref		Compliance Y/N/Partial	Comments/ Reference to compliance
Management commitment and responsibility	5.1	Is there a written safety policy endorsed by the Accountable Manager?		
	5.1	Do the Accountable Manager and Senior Management activity promote and demonstrate their commitment to the safety policy?		
	5.1	Has the safety policy been communicated effectively throughout the organisation?		
	5.1	Does the safety policy cover the points in this guidance material?		
Safety accountabilities	5.2	Are the safety accountabilities and responsibilities of the Accountable Manager and other key staff members clearly defined?		
	5.2	Does tha Accountable Manager have full responsibility for the SMS and authority to make decisions regarding the budget?		
	5.2	Has the management structure of the organisation been defined?		
	5.2	Are all staff members aware of their safety roles and responsibilities?		
Appointment of key safety staff members	5.3	Has a focal point/Safety Manager for the SMS been appointed?		
	5.3	Is there a direct reporting line between the SMS focal point/Safety Manager and the Accountable Manager?		
	5.3	Does the SMS focal point/Safety Manager have the appropriate SMS knowledge and understanding?		

	5.3	Does the organisation have a Safety Committee?		
	5.3	Does the Safety Committee monitor the safety performance of the organisation?		
	5.3	Does the Safety Committee meet regularly and are the meetings minuted?		
Emergency Response planning	5.4	Has an emergency response plan been developed and is it kept up to date?		
	5.4	Are the roles, responsibilities and actions of key staff members defined in the ERP?		
	5.4	Does the ERP include all the considerations in this guidance material if appropriate?		
	5.4	Is the ERP regularly reviewed and tested?		
safety documentation	5.5	Does the safety management manual or safety documentation in existing manuals contain all the elements as detailed in this guidance material?		
	5.5	Is it regularly reviewed?		
	5.5	Is there a system for the recording and storage of SMS documentation and records i.e. hazard logs, risk assessments and safety cases?		
Hazard identification	6.2	Is there a confidential safety reporting system?		
	6.2	Are safety reports reviewed by the Safety Committee?		
	6.2	Is there feedback to the reporter?		
	6.3	Is there a written procedure describing how hazards are identified?		
	6.3	Have the major hazards associated with the organisation been identified?		
Risk assessment and mitigation	6.4	Is there a risk assessment process in place?		
	6.4	Is the risk tolerability matrix appropriate and can it be applied consistently?		
	6.4	Is there a process for deciding any necessary risk mitigation?		

	6.4	Are risk mitigations and controls being verified/ audited to confirm the effectiveness?		
	6.4	Are risks being managed to ALARP?		
	6.9	Are the hazards and risks recorded on a hazard log?		
Safety promotion monitoring	7.2	Have safety performance indicators been defined?		
	7.3	Are the safety performance indicators reviewed regularly to identify any trends?		
Management of change	7.4	Is there a process to proactively identify hazards and to mitigate risks when significant changes in the organisation occur?		
	7.4	Are procedures or checklists reviewed when significant changes in the organisation occur?		
Incident management	7.5	Are safety investigations carried out after incidents or accidents?		
	7.5	Are the hazards identified from safety investigations addressed and communicated to the rest of the organisation?		
	7.5	Are investigations identifying root cause?		
Continuous improvement	7.6	Are lessons learnt incorporated into your policy and procedures?		
	7.6	Is continuous improvement achieved through the methods detailed in the guidance material?		
Safety auditing	7.7	Are safety audits carried out?		
	7.7	Is there an independent quality system or third party agency that audits the SMS?		
	7.7	Are safety surveys carried out?		

Safety training and education	8.1	Have all staff been appropriately trained in respect of the SMS?		
	8.1	Operational staff?		
	8.1	Managers and Supervisors?		
	8.1	Senior Management?		
communication	8.2	Does safety related information get communicated to all staff members as appropriate?		
	8.2	Does relevant safety information reach external users/ customers etc?		
SMS implementation	9.1	Has a gap analysis been carried out?		
	9.2	Is there an SMS implementation plan?		
	9.2	Does the implementation plan reflect the gap analysis?		
	9.2	Is the implementation plan on target?		

Attachment 3

Phase 1 SMS Evaluation Framework/GAP Analysis for Complex Organisations

Basic SMS Evaluation Framework/GAP Analysis for Complex Organisations

Organisation:	**Approval Reference:**

Signature:	**Position:**
Print Name:	**Date of signing:**
SMS Manual Revision:	

To be completed and signed for by the Safety Manager or Accountable Manager

For HCAA use only

HCAA Staff: Name:	
Signature	
Date of assessment:	

	In place[1]	Documented[2] Reference:	How it is achieved[3]	HCAA assessment remarks[4]
0 General Issues and SMS Implementation				
SMS Scope and Implementation The Organisation should define the scope of the organisation and its activities and this should include how it addresses safety provisions in its contractors that provide safety services to the organisation. In establishing an SMS a GAP analysis should be carried out and an implementation plan that will address how the organisation will transition to a fully functioning and effective SMS				
0.1 In respect of the management system has the structure, activities and the scope of the organisation been defined?				
0.2 Does the SMS correspond to the size, nature and complexity of the organisation and the hazards and associated risks inherent with its activities?				
0.3 Has a gap analysis been carried out?				
0.4 Is there an SMS implementation plan that reflects the gap analysis?				

[1] Yes (Y), No (N) or Partial (P)
[2] Where is it documented in your documentation?
[3] Provide details that describes or demonstrates your response to the question.
[4] This will be completed by the HCAA during the assessment process

	In place[1]	Documented[2] Reference:	How it is achieved[3]	HCAA assessment remarks[4]
0.5 Are safety management provisions required for all new safety related contracted service providers?				
1. Safety Policy and Objectives				
1.1 Management Commitment and Responsibility The organisation should define its safety policy which should be in accordance with international and national requirements, and which shall be signed by the Accountable Manager of the organisation. The safety policy should reflect organisational commitments regarding safety, including a clear statement about the provision of the necessary human and financial resources for its implementation and be communicated, with visible endorsement, throughout the organisation. The safety policy should include the safety reporting procedures and clearly indicate which types of behaviours are unacceptable and shall include the conditions under which disciplinary action would not apply. The safety policy should be periodically reviewed to ensure it remains relevant and appropriate to the organisation.				
1.1.1 Is there a written safety policy endorsed by the Accountable Manager?				
1.1.2 Were key staff consulted in the development of the safety policy?				
1.1.3 Has the safety policy been communicated effectively throughout the organisation?				
1.1.4 Does Senior Management continuously promote and demonstrate its commitment to the safety policy?				

	In place[1]	Documented[2] Reference:	How it is achieved[3]	HCAA assessment remarks[4]
1.1.5 Does the safety Policy include a commitment to; strive to achieve the highest safety standards, observe all applicable legal requirements, standards and best practice, providing appropriate resources and safety as a primary responsibility of all Managers?				
1.1.6 Does the Safety policy actively encourage safety reporting				
1.1.7 Is the safety management system based on the safety policy				
1.2 Safety Accountabilities The organisation shall identify the accountable executive who, irrespective of other functions, shall have ultimate responsibility and accountability, on behalf of the organisation, for the implementation and maintenance of the SMS. The organisation shall also identify the safety accountabilities of all members of senior management, irrespective of other functions, as well as of employees, with respect to the safety performance of the SMS. Safety responsibilities, accountabilities and authorities shall be documented and communicated throughout the organisation, and shall include a definition of the levels of management with authority to make decisions regarding safety risk tolerability.				
1.2.1 Does the Accountable Manager have full responsibility and accountability for the SMS and corporate authority for the organisation?				
1.2.2 Does the Accountable Manager have an awareness of their SMS roles and responsibilities in respect of the safety policy, safety standards and safety culture of the organisation?				

	In place[1]	Documented[2] Reference:	How it is achieved[3]	HCAA assessment remarks[4]
1.2.3 Are safety accountabilities, authorities and responsibilities defined throughout the organisation?				
1.2.4 Are there clearly defined lines of safety accountabilities throughout the organisation				
1.2.5 Are all staff aware of and understand their safety accountabilities, authorities and responsibilities?				
1.3 Appointment of key safety personnel The organisation shall identify a safety manager to be the responsible individual and focal point for the implementation and maintenance of an effective SMS. In addition the safety committees that support the Accountable manager and the Safety manager in delivering an effective SMS should be defined and documented.				
1.3.1 Has a Safety Manager (or equivalent) been appointed with the appropriate knowledge, skills and experience as defined in the guidance material?				
1.3.2 Is there a direct reporting line between the Safety Manager and the Accountable Manager?				
1.3.3 Does the safety Manager carry out the functions as detailed in the CAA guidance material?				
1.3.4 Has a Safety Review Board or equivalent been established?				
1.3.5 Does the Accountable Manager chair the Safety Review Board?				

	In place[1]	Documented[2] Reference:	How it is achieved[3]	HCAA assessment remarks[4]
1.3.6 Does the Board monitor the safety performance and effectiveness of the SMS as detailed in the guidance material?				
1.3.7 Is the Board membership and frequency of meetings defined and minuted?				
1.3.8 Has a Safety Action Group or equivalent been established that fulfils the functions defined in the guidance material?				
1.4 Coordination of Emergency Response Planning The organisation shall ensure that an emergency response plan that provides for the orderly and efficient transition from normal to emergency operations and the return to normal operations, is properly coordinated with the emergency response plans of those organisations it must interface with during the provision of its services.				
1.4.1 Has an emergency response plan been developed that include all the considerations in the guidance material as appropriate?				
1.4.2 Are the roles, responsibilities and actions of the various agencies and key personnel defined.				
1.4.3 Do the key personnel in an emergency have easy access to the ERP at all times?				
1.4.4 Is the ERP regularly reviewed and tested?				

	In place[1]	Documented[2] Reference:	How it is achieved[3]	HCAA assessment remarks[4]
1.5 SMS Documentation The organisation shall develop and maintain SMS documentation describing the safety policy and objectives, the SMS requirements, the SMS processes and procedures, the accountabilities, responsibilities and authorities for processes and procedures, and the SMS outputs. The organisation shall incorporate the SMS documentation into its existing organisation documentation , or shall develop and maintain a safety management systems manual (SMSM), to communicate its approach to the management of safety throughout the organisation.				
1.5.1.Does the Safety management manual contain all the elements as detailed in the guidance material.				
1.5.2 Is it regularly reviewed?				
1.5.3 Is there a system for the recording and storage of SMS documentation and records i.e. hazard logs, risk assessments and safety cases?				
2 Safety Risk management				
2.1 Hazard Identification The organisation shall develop and maintain a formal process that ensures that aviation hazards are identified. This should include the investigation of incidents and accidents to identify potential hazards. Hazard identification shall be based on a combination of reactive, proactive and predictive methods of safety data collection.				
2.1.2 Is there a process for establishing how hazards are identified and from what sources?				
2.1.3 Is there a confidential safety reporting scheme that encourages errors, hazards and near misses to be reported by staff?				

	In place[1]	Documented[2] Reference:	How it is achieved[3]	HCAA assessment remarks[4]
2.1.4 Is there feedback to the reporter and the rest of the organisation?				
2.1.5 Does Hazard identification include reactive, proactive and predictive schemes?				
2.1.6 Have the major hazards and risks been identified and assessed for the organisation and its current activities?				
2.1.7 Are safety investigations being carried out to identify underlying causes and potential hazards?				
2.1.8 Are the hazards identified from safety investigations addressed and communicated to the rest of the organisation?				
2.1.9 Are errors, hazards and near misses being reported by staff?				
2.2 Safety Risk assessment and mitigation process The organisation shall develop and maintain a formal process that ensures analysis, assessment and control of the safety risks in operations to as low as reasonable practical.				
2.2.1 Is there a process to assess the risks associated with identified hazards?				
2.2.2 Is there a criteria (eg risk tolerability matrix) that evaluates risk and the tolerable levels of risk an organisation is willing to accept?				

	In place[1]	Documented[2] Reference:	How it is achieved[3]	HCAA assessment remarks[4]
2.2.2 Are corrective / preventative actions, including timelines and responsibilities documented?				
3. Safety Assurance				
3.1 Safety performance monitoring and measurement The organisation shall develop and maintain the means to verify the safety performance of the organisation, and to validate the effectiveness of safety risks controls. The safety performance of the organisation shall be verified in reference to the safety performance indicators and safety performance targets of the SMS.				
3.1.1 Are risk mitigations and controls being verified / audited to confirm the effectiveness?				
3.1.2 Are lessons learnt incorporated into your policy and procedures?				
3.1.3 Have safety performance indicators been defined, promulgated and being monitored and analysed for trends?				
3.1.4 Are safety audits carried out that focus on the performance of the organisation and its services and assess normal operations?				
3.1.5 Is the SMS audited to assess its effectiveness and that the regulations and standards are being followed?				
3.1.6 Are safety / cultural surveys carried out?				

	In place[1]	Documented[2] Reference:	How it is achieved[3]	HCAA assessment remarks[4]
3.2 The Management of Change The organisation shall develop and maintain a formal process to identify changes within the organization which may affect established processes and services; to describe the arrangements to ensure safety performance before implementing changes; and to eliminate or modify safety risk controls that are no longer needed or effective due to changes in the operational environment.				
3.2.1 Is there a documented change management process to proactively identify hazards and to mitigate risks during organisational changes?				
3.2.3 Are there periodical reviews of the safety performance after organisational changes to assure assumptions remain valid and the change was effective?				
3.3 Continuous improvement of the SMS The organisation shall develop and maintain a formal process to identify the causes of substandard performance of the SMS, determine the implications of substandard performance of the SMS, determine sub-standard performance in operations, and eliminate or mitigate such causes.				
3.3.1 Is there a means to monitor the overall performance of the SMS to allow for continuous improvement to be achieved?				
3.3.2 Is there evidence of continuous improvement being achieved?				
4 Safety Promotion				
4.1 Training and Education The organisation shall develop and maintain a safety training programme that ensures that personnel are trained and competent to perform the SMS duties. The scope of the safety training shall be appropriate to each individual's involvement in the SMS.				

	In place[1]	Documented[2] Reference:	How it is achieved[3]	HCAA assessment remarks[4]
4.1.1 Have all staff received training on the organisation's SMS and their roles and responsibilities in respect of the SMS including the Accountable Manager, Senior Management, Managers, supervisors and operational staff?				
4.1.5 Does the organisation provide training on human and organisational factors?				
4.1.6 Is the effectiveness of the training measured?				
4.2 Safety communication The organisation shall develop and maintain formal means for safety communication that ensures that all personnel are fully aware of the SMS, conveys safety critical information, and explains why particular safety actions are taken and why safety procedures are introduced or changed.				
Does safety communication reach all levels of staff in the organisation?				
Does the safety communication compliment and enhance the organisation's safety culture?				
Is the safety information disseminated in a suitable medium and monitored for its effectiveness?				
Does relevant safety information reach external users / customers etc?				

Attachment 4

Phase 1 SMS Evaluation Framework/GAP Analysis for Non-Complex Organisations

Non Complex Organisation Phase 1 Evaluation Tool / Self-assessment questions

Organisation:	**Approval Reference(s):**

Signature:	**Position:**
Print Name:	**Date of signing:**
SMS Manual Revision:	

To be completed and signed for by the Safety Manager or Accountable Manager

For HCAA use only

HCAA Staff Name			
Date of Phase 1 assessment:			
Date of Phase 1 completed:			
Signature			

	Guidance Ref		Compliance Y/ N / Partial	Comments / Reference to compliance
Management commitment and responsibility	5.1	Is there a written safety policy endorsed by the Accountable Manager?		
	5.1	Does Senior Management continuously promote and demonstrate its commitment to the safety policy?		
	5.1	Has the safety policy been communicated effectively throughout the organisation?		
	5.1	Does the safety policy cover the points in this guidance material?		
Safety accountabilities	5.2	Are the safety accountabilities and responsibilities of the Accountable Manager and other key staff members clearly defined and published for all staff and contractors to see?		
	5.2	Does the Accountable Manager have full responsibility for the SMS and authority to make decisions regarding the budget?		
	5.2	Has the management structure of the organisation been defined?		
	5.2	Are all staff members aware of their safety roles and responsibilities?		
Appointment of key safety staff members	5.3	Has a focal point/Safety Manager for the SMS been appointed?		
	5.3	Is there a direct reporting line between the SMS focal point/ Safety Manager and the Accountable Manager?		
	5.3	Does the SMS focal point/ Safety Manager have the appropriate SMS knowledge and understanding?		
	5.3	Does the organisation have a Safety Committee?		

	5.3	Does the Safety Committee monitor the safety performance and the effectiveness of the SMS?		
	5.3	Does the Safety Committee meet regularly and are the meetings minuted?		
Emergency response planning	5.4	Has an emergency response plan been developed and is it kept up to date?		
	5.4	Are the roles, responsibilities and actions of key staff members defined in the ERP?		
	5.4	Does the ERP include all the considerations in this guidance material if appropriate?		
	5.4	Is the ERP regularly reviewed and tested?		
Safety documentation	5.5	Does the safety management manual or safety documentation in existing manuals contain all the elements as detailed in this guidance material?		
	5.5	Is it regularly reviewed?		
	5.5	Is there a system for the recording and storage of SMS documentation and records i.e. hazard logs, risk assessments, safety reports from staff/contractors and safety cases?		
Hazard identification	6.2	Is there a confidential safety reporting system?		
	6.2	Are safety reports assigned an 'owner' and reviewed by the Safety Committee?		
	6.2	Is there feedback to the reporter?		
	6.3	Is there a written procedure describing how hazards are identified?		
	6.3	Have the major hazards associated with the organisation been identified?		

Risk assessment and mitigation	6.4	Is there a risk assessment process in place?		
	6.4	Is the risk tolerability matrix appropriate and can it be applied consistently?		
	6.4	Is there a process for deciding any necessary risk mitigation?		
	6.4	Are risk mitigations and controls being verified/audited to confirm the effectiveness?		
	6.7	Are risks being managed to a reasonable level?		
	6.9	Are the hazards and risks recorded on a hazard log?		
Safety performance monitoring	7.2	Have safety performance indicators been defined?		
	7.3	Are the safety performance indicators reviewed regularly to identify any trends?		
Management of change	7.4	Is there a process to proactively identify hazards and to mitigate risks when significant changes in the organisation occur?		
Incident management	7.5	Are safety investigations carried out after incidents or accidents to establish root cause?		
	7.5	Are the hazards identified from safety investigations addressed and communicated to the rest of the organisation?		
Continuous improvement	7.6	Is continuous improvement in the safety performance being achieved?		
Safety auditing	7.7	Are safety audits and surveys carried out?		

	7.7	Is there an independent quality system or third party agency that audits the SMS?		
Safety training	8.1	Have all staff been appropriately trained in respect of the SMS and their safety roles and responsibilities?		
Communication	8.2	Does safety related information get communicated to all staff members as appropriate?		
	8.2	Does relevant safety information reach external users/customers etc?		
SMS implementation	9.1	Has a gap analysis been carried out?		
	9.2	Is there an SMS implementation plan?		
	9.2	Does the implementation plan reflect the gap analysis?		
	9.2	Is the implementation plan on target?		

Attachment 5
Phase 2 SMS Evaluation Tool for Complex and Non Complex Organisations

This Tool evaluates the effectiveness of the SMS at 3 different levels as is based on the ICAO Framework of the 4 key components and 12 key elements. References to the EASA Management System requirements are detailed for each ICAO element. For each of the 12 elements of the ICAO Framework there are a series of 'compliance + performance' and 'excellence and best practice' markers that are assessed for their presence and suitability as well as for operating and being effective using the definitions detailed below. Once the individual markers are assessed an overall effectiveness assessment is made at the ICAO SMS element level. Finally with all the 12 elements assessed the summary evaluation is completed at the ICAO Key Component Level. An assessment should be made by the organisation for each 'compliance + performance' markers first and where an 'excellence and best practice' marker is in place this should also be assessed. This in turn will help determine the overall level of the SMS maturity and effectiveness using the Summary Evaluation matrix. The organisation's assessment will be sampled and verified as part of the HCAA SMS assessment.

PSOE Definitions for individual markers

Present

There is evidence that the 'marker' is clearly visible and is documented within the organisation's SMS Documentation.

Suitable

The marker is not unsuitable based on the size, nature, complexity and the inherent risk in the activity that would also consider the industry sector

Operating

There is evidence that the marker is in use and an output is being produced

Effective

There is evidence that the element or component is effectively achieving the desired outcome

Key Element Definitions

Effectiveness Not Achieved

The overall effectiveness of that element has not yet been achieved

Effectiveness Achieved

All compliance + performance markers are at least operating and the overall effectiveness for that element is achieved

Signs of Excellence

Effectiveness is achieved as above and up to half of the excellence and best practices markers are at least operating

Excellence

Effectiveness is achieved as above and at least half of the excellence and best practices markers are effective

1.0 SAFETY POLICY AND OBJECTIVES

1.1 MANAGEMENT COMMITMENT AND RESPONSIBILITY OR*.GEN.200 (a) (2)

The organisation should define its safety policy which should be in accordance with international and national requirements, and which shall be signed by the Accountable Manager of the organisation. The safety policy should reflect organisational commitments regarding safety, including a clear statement about the provision of the necessary human and financial resources for its implementation and be communicated, with visible endorsement, throughout the organisation. The safety policy should include the safety reporting procedures and clearly indicate which types of behaviours are unacceptable and shall include the conditions under which disciplinary action would not apply. The safety policy should be periodically reviewed to ensure its remains relevant and appropriate to the organisation.

COMPLIANCE + PERFORMANCE MARKERS		P	S	O	E	How it is achieved	HCAA Remarks
1.1.1	There is a safety policy that includes a commitment towards achieving the highest safety standards signed by the Accountable Manager						
1.1.2	The organisation has based its safety management system on the safety policy						
1.1.3	The Accountable Manager and the senior management team promote and demonstrate their commitment to the Safety Policy through active and visible participation in the safety management system.						
1.1.4	The safety policy is communicated to all employees with the intent that they are made aware of their individual contributions and obligations with regard to Safety.						
1.1.5	The safety policy includes a commitment to observe all applicable legal requirements, standards and best practice providing appropriate resources and defining safety as a primary responsibility of all Managers.						
1.1.6	The safety policy actively encourages safety reporting						
1.1.7	The safety policy states the organisation's intentions, management principles and commitment to continuous improvement in the safety level.						
1.1.8	The safety policy is reviewed periodically to ensure it remains current						
1.1.9	There is commitment of the organisation's senior management to the development and ongoing improvement of the safety management system.						
1.1.10	A disciplinary policy has been defined that clearly identifies the conditions under which punitive action would be considered (e.g. illegal activity, negligence or wilful misconduct)						
1.1.11	There is evidence of decision making, actions and behaviours that reflect a positive safety culture.						

EXCELLENCE AND BEST PRACTICE MARKERS		P	S	O	E	How it is achieved	HCAA Remarks
1.1.12	Personnel at all levels are involved in the establishment and maintenance of the safety management system.						
1.1.13	There is one aviation safety policy used throughout the organisation and it is implemented at all levels of the organisation.						
1.1.14	The safety policy is clearly visible, or available, to all personnel and is included in key documentation and communication media						
1.1.15	Safety policy objectives drive the organisation's goals and mission statements						
1.1.16	The organisation regularly verifies that personnel throughout the organisation are familiar with and have understood the policy and its message.						
1.1.17	The Accountable Manager demonstrates their commitment by attending significant safety conferences.						

1.1 EFFECTIVENESS is achieved when the organisation has defined its safety policy that clearly states its intentions, safety objectives and philosophies and there is visible evidence of safety leadership and management 'walking the talk' and demonstrating by example.	**Effectiveness Not Achieved**		**HCAA REMARKS**
	Effectiveness Achieved		
	Signs of Excellence		
	Excellence		

1.2 SAFETY ACCOUNTABILITIES OR*.GEN.210 (a) and (b)

The organisation shall identify the accountable executive who, irrespective of other functions, shall have ultimate responsibility and accountability, on behalf of the organisation, for the implementation and maintenance of the SMS. The organisation shall also identify the safety accountabilities of all members of senior management, irrespective of other functions, as well as employees, with respect to the safety performance of the SMS. Safety responsibilities, accountabilities and authorities shall be documented and communicated throughout the organisation, and shall include a definition of the levels of management with authority to make decisions regarding safety risk tolerability.

COMPLIANCE + PERFORMANCE MARKERS		P	S	O	E	How it is achieved	HCAA Remarks
1.2.1	An Accountable Manager has been appointed with full responsibility and ultimate accountability for the SMS to ensure it is properly implemented and performing effectively.						
1.2.2	The Accountable Manager has control of the financial and human resources required for the proper implementation of an effective SMS						
1.2.3	The Accountable Manager is fully aware of their SMS roles and responsibilities in respect of the safety, policy, safety standards and safety culture of the organisation.						
1.2.4	Safety accountabilities, authorities and responsibilities are defined throughout the organisation.						
1.2.5	Staff at all levels are aware of and understand their safety accountabilities, authorities and responsibilities regarding all safety management processes, decisions and actions.						
1.2.6	Safety management is shared across the organisation (and is not just the responsibility of the Safety Manager and his/her team)						
1.2.7	There are documented management organisational diagrams and job descriptions for all personnel, including non-certified personnel.						

EXCELLENCE AND BEST PRACTICE MARKERS		P	S	O	E	How it is achieved	HCAA Remarks
1.2.8	There is evidence of employee involvement and consultation in the establishment and operation of the SMS.						
1.2.9	There is evidence that safety management system principles have penetrated all levels of the organisation and safety is part of the everyday language.						
1.2.10	Safety accountabilities throughout the organisation are clearly documented and individuals sign for their accountabilities.						
1.2.11	Key safety activities are clearly described in senior management duties and responsibilities are incorporated into personnel performance targets.						
1.2.12	There is evidence that senior management recognises the significance of contributions from all levels of the organisation and has a mechanism for acknowledging those contributions.						

1.2 EFFECTIVENESS is achieved when there are clear lines of safety accountabilities throughout the organisation including an accountable person who has ultimate accountability for the SMS and the Accountable Manager and management team fully understand the risks faced by the organisation.	**Effectiveness Not Achieved**		**HCAA REMARKS**
	Effectiveness Achieved		
	Signs of Excellence		
	Excellence		

1.3 APPOINTMENT OF KEY PERSONNEL OR*.GEN.210(b)

The organisation shall identify a safety manager to be the responsible individual and focal point for the implementation and maintenance of an effective SMS. In addition the safety committees that support the Accountable Manager and the Safety Manager in delivering an effective SMS should be defined and documented.

COMPLIANCE + PERFORMANCE MARKERS		P	S	O	E	How it is achieved	HCAA Remarks
1.3.1	A competent person with the appropriate knowledge, skills and experience has been nominated to manage the operation of the SMS.						
1.3.2	The person managing the operation of the SMS fulfils the required job functions and responsibilities.						
1.3.3	There is a direct reporting line between the Safety Manager and the Accountable Manager.						
1.3.4	The organisation has allocated sufficient resources to manage the SMS including manpower for safety investigation, analysis, auditing and promotion.						
1.3.5	Staff in key safety roles are kept current through additional training and attendance at conferences and seminars.						
1.3.6	The organisation has established a structured safety committee or board, appropriate for the size and complexity of the organisation, consisting of a full range of senior management representatives.						

EXCELLENCE AND BEST PRACTICE MARKERS		P	S	O	E	How it is achieved	HCAA Remarks
1.3.7	The Safety Review Board or its equivalent monitors the safety performance of the operations and the effectiveness of the SMS and is normally chaired by the accountable executive.						
1.3.8	The person (s) responsible for managing and maintaining the SMS is/are given appropriate status in the organisation reflecting the importance of the safety role within the organisation.						

1.3.9	Safety committees include stakeholders and significant contracted organisations.						
1.3.10	Safety committees are focused on safety issues and all attendees fully participate.						

1.3 EFFECTIVENESS is achieved when the SMS is facilitated by the responsible individual and there is a safety structure of key personnel from the various operational areas of the organisation. Business area heads are actively engaged in the safety management system.	**Effectiveness Not Achieved**		**HCAA REMARKS**
	Effectiveness Achieved		
	Signs of Excellence		
	Excellence		

1.4 CO-ORDINATION OF EMERGENCY RESPONSE PLANNING AMC1-OR*.GEN.200(a)(3)

The organisation shall ensure that an emergency response plan that provides for the orderly and efficient transition from normal to emergency operations and the return to normal operations is properly coordinated with the emergency response plans of those organisations it must interface with during the provision of its service.

COMPLIANCE + PERFORMANCE MARKERS		P	S	O	E	How it is achieved	HCAA Remarks
1.4.1	An emergency response plan that reflects the size, nature and complexity of the operation has been developed and defines the procedures, roles, responsibilities and actions of the various organisations and key personnel.						
1.4.2	Key personnel in an emergency have easy access to the ERP at all times.						
1.4.3	The organisation has a process to distribute the ERP procedures and to communicate the content to all personnel.						
1.4.4	The ERP is periodically tested for the adequacy of the plan and the results reviewed to improve its effectiveness						

EXCELLENCE AND BEST PRACTICE MARKERS		P	S	O	E	How it is achieved	HCAA Remarks
1.4.5	The organisation has Memorandums of Understanding (MoUs) or agreements with other organisations for mutual aid and the provision of emergency services.						
1.4.6	The organisation has implemented Critical Incident Stress Management for its staff						

1.4 EFFECTIVENESS is achieved when the organisation has an emergency response plan that is appropriate to the organisation and is regularly tested and updated including coordination with other organisations as appropriate.	**Effectiveness Not Achieved**		**HCAA REMARKS**
	Effectiveness Achieved		
	Signs of Excellence		
	Excellence		

1.5 SMS DOCUMENTATION OR*GEN.200(a) (5)

The organisation shall develop and maintain SMS documentation describing the safety policy and objectives, the SMS requirements, the SMS processes and procedures, the accountabilities, responsibilities and authorities for processes and procedures, and the SMS outputs. The organisation shall incorporate the SMS documentation into its existing organisation documentation, or shall develop and maintain a safety management system manual (SMSM) to communicate its approach to the management of safety throughout the organisation.

COMPLIANCE + PERFORMANCE MARKERS		P	S	O	E	How it is achieved	HCAA Remarks
1.5.1	There is documentation that describes the safety management system and the interrelationships between all of its elements.						
1.5.2	SMS documentation is regularly reviewed and updated with appropriate version control in place						
1.5.3	SMS documentation is readily available to all personnel						
1.5.4	The SMS documentation details and references the means for the storage of other SMS related records.						

EXCELLENCE AND BEST PRACTICE MARKERS		P	S	O	E	How it is achieved	CAA Remarks
1.5.5	SMS documentation is incorporated into existing organisational manuals.						
1.5.6	The company has analysed and uses the most appropriate medium for the delivery of documentation at both the corporate and operational levels.						

1.5 EFFECTIVENESS is achieved when the organisation has SMS documentation that describes their approach to the management of safety that is used throughout the organisation and is regularly reviewed and updated. The documentation meets the safety objectives of the organisation.	**Effectiveness Not Achieved**		**HCAA REMARKS**
	Effectiveness Achieved		
	Signs of Excellence		
	Excellence		

2.0 SAFETY RISK MANAGEMENT

2.1 HAZARD IDENTIFICATION OR*.GEN.200 (a) (3)

The organisation shall develop and maintain a formal process that ensures that aviation safety hazards are identified. This should include the investigation of incidents and accidents to identify potential hazards. Hazard identification shall be based on a combination of reactive, proactive and predictive methods of safety data collection.

COMPLIANCE + PERFORMANCE MARKERS		P	S	O	E	How it is achieved	HCAA Remarks
2.1.1	The organisation has a reporting system to captures errors, hazards and near misses that is simple to use and accessible to all staff.						
2.1.2	The organisation has proactively identified all the major hazards and assessed the risks related to its current activities.						
2.1.3	The safety reporting system provides feedback to the reporter of any actions taken (or not taken) and, where appropriate, to the rest of the organisation.						
2.1.4	Safety investigations are carried out to identify underlying causes and potential hazards.						
2.1.5	Safety reports are acted on in a timely manner.						
2.1.6	Hazard identification is an ongoing process and involves all key personnel and appropriate stakeholders.						
2.1.7	Personnel responsible for investigating reports are trained in investigation techniques.						
2.1.8	Investigations establish causal/contributing factors (why it happened, not just what happened)						

2.1.9	Personnel express confidence and trust in the organisations reporting policy and process.						

EXCELLENCE AND BEST PRACTICE MARKERS		P	S	O	E	How it is achieved	HCAA Remarks
2.1.10	There is an active reporting system indicated by reporting levels of more than 1 report per employee per year.						
2.1.11	Safety Reports include the reporter's own errors and events that the reporter would not normally report (events where no-one was watching)						
2.1.12	The reporting system empowers personnel to propose preventative and corrective actions.						
2.1.13	The reporting system is actively used throughout the organisation.						
2.1.14	The reporting system is available to contracted organisations and customers to make reports.						
2.1.15	There is a process in place to analyse reports and hazard logs to look for trends and gain useable management information.						

2.1 EFFECTIVENESS is achieved when aviation safety hazards are being identified and reported throughout the organization. Hazards are captured in a hazard register and assessed in a systematic and timely manner.	**Effectiveness Not Achieved**		**HCAA REMARKS**
	Effectiveness Achieved		
	Signs of Excellence		
	Excellence		

2.2 RISK ASSESSMENT AND MITIGATION OR*.GEN.200 (a) (3)

The organisation shall develop and maintain formal process that ensures analysis, assessment and control of safety risks in operations to as low as reasonably practicable.

COMPLIANCE + PERFORMANCE MARKERS		P	S	O	E	How it is achieved	HCAA Remarks
2.2.1	There is a structured process for the management of risk that includes the assessment of risk associated with identified hazards, expressed in terms of severity						
2.2.2	There are criteria for evaluating the level of risk the organisation is willing to accept						
2.2.3	The organisation has risk control strategies that include risk control, risk avoidance, risk acceptance, risk mitigation, risk elimination and where applicable a corrective action plan.						
2.2.4	Corrective actions resulting from the risk assessment, including timelines and allocation of responsibilities are documented.						
2.2.5	Risk management is routinely applied in decision making processes.						
2.2.6	Effective and robust mitigations and controls are implemented						
2.2.7	Risk assessments and risk ratings are appropriately justified.						
2.2.8	Senior management have visibility of medium and high risk hazards and their mitigation and controls.						

EXCELLENCE AND BEST PRACTICE MARKERS		P	S	O	E	How it is achieved	HCAA Remarks
2.2.9	There is evidence that risks are being managed to as low as reasonably practical						
2.2.10	The organisation uses its risks management results to develop best practice guidelines that it shares with the industry.						
2.2.11	The risk management processes are reviewed and improved on a periodic basis						

2.2 EFFECTIVENESS is achieved when the organisation understands and is managing its most significant safety risks through a formal process that ensures analysis, assessment and control of the safety risks in operations to an acceptable level.	**Effectiveness Not Achieved**		**HCAA REMARKS**
	Effectiveness Achieved		
	Signs of Excellence		
	Excellence		

3.0 SAFETY ASSURANCE

3.1 SAFETY PERFORMANCE MONITORING AND MEASUREMENT OR*GEN.200 (a) (3)

The organisation shall develop and maintain the means to verify the safety performance of the organisation and to validate the effectiveness of safety risks controls. The safety performance of the organisation shall be verified in reference to the safety performance indicators and safety performance targets of the SMS.

COMPLIANCE + PERFORMANCE MARKERS		P	S	O	E	How it is achieved	HCAA Remarks
3.1.1	Safety objectives have been established						
3.1.2	Safety performance indicators have been defined, promulgated and are being monitored and analysed for trends.						
3.1.3	Safety performance indicators are linked to the organisation's safety objectives and reflect state SPIs or their precursors where appropriate.						
3.1.4	Risk mitigations and controls are being verified/audited to confirm they are working and effective.						
3.1.5	Safety audits are carried out that focus on the safety performance of the organisation and its services and assess normal operations.						
3.1.6	Safety objectives and performance indicators are reviewed and updated periodically.						
3.1.7	Safety objectives and goals are specific, measureable, agreed to, relevant and time-based.						
3.1.8	The analysis and allocation of resources are based on outputs from the performance measurement.						

3.1.9	Safety Assurance and Compliance Monitoring activities feed back into the hazard identification process.						
3.1.10	Safety assurance takes into account activities carried out in all directly contracted organisations.						
3.1.11	The organisation is monitoring its current, future and third party safety risks and is taking action to address unacceptable safety risks						

EXCELLENCE AND BEST PRACTICE MARKERS		**P**	**S**	**O**	**E**	**How it is achieved**	**HCAA Remarks**
3.1.12	When establishing and reviewing objectives and performance indicators, the organisation considers:- hazards and risks; financial, operational and business requirements; view of interested parties.						
3.1.13	Safety objectives and performance indicators encompass all areas of the organisation						
3.1.14	Performance measurements have been defined for serious safety risks identified on the safety risk profile.						
3.1.15	Personnel at all levels are aware of the safety performance measurements in their areas of responsibility and the results of performance measurements are transmitted to them.						
3.1.16	The organisation uses a combination of leading and lagging indicators to measure the safety performance of the organsiation						

3.1 EFFECTIVENESS is achieved when the organisation has developed a series of safety performance indicators that are appropriate to the type of operation. There is a means to measure and monitor trends and take appropriate action when necessary.	**Effectiveness Not Achieved**		**HCAA REMARKS**
	Effectiveness Achieved		
	Signs of Excellence		
	Excellence		

3.2 THE MANAGEMENT OF CHANGE OR*GEN.200 (a) (3)

The organisation shall develop and maintain a formal process to identify changes within the organisation and its operation, which may affect established processes and services, to describe the arrangements to ensure safety performance before implementing changes, and to eliminate or modify safety risk controls that are no longer needed or effective due to changes in the operational environment.

COMPLIANCE + PERFORMANCE MARKERS		**P**	**S**	**O**	**E**	**How it is achieved**	**HCAA Remarks**
3.2.1	The organisation has established a process and conducts formal hazard analyses/risk assessment for major operational changes, major organisational changes and changes in key personnel.						
3.2.2	Safety Case/Risk assessments are aviation safety focused.						
3.2.3	Key stakeholders are involved in the change management process						
3.2.4	During the change management process previous risk assessments and existing hazards are reviewed for possible effect.						

EXCELLENCE AND BEST PRACTICE MARKERS		**P**	**S**	**O**	**E**	**How it is achieved**	**HCAA Remarks**
3.2.5	Validation of the safety performance after organisational and operational changes have taken place to assure assumptions remain valid and the change was effective						
3.2.6	All organisational and operational changes are subject to the change management process						

3.2.7	Safety accountabilities, authorities and responsibilities are reviewed as part of the change.						
3.2.8	Safety cases and risk assessments are reviewed regularly to ensure they remain appropriate and effective						

3.2 EFFECTIVENESS is achieved when the organisation uses the safety risk management system to proactively assess all major changes to the organisation and its operations.	**Effectiveness Not Achieved**		**HCAA REMARKS**
	Effectiveness Achieved		
	Signs of Excellence		
	Excellence		

3.3 CONTINUOUS IMPROVEMENT OF THE SMS OR*.GEN.200 (a) (3)

The organisation shall develop and maintain a formal process to identify the causes of substandard performance of the SMS, determine the implications of substandard performance of the SMS, determine substandard performance in operations, and eliminate or mitigate such causes.

COMPLIANCE + PERFORMANCE MARKERS		**P**	**S**	**O**	**E**	**How it is achieved**	**HCAA Remarks**
3.3.1	The Safety Review Board or equivalent has the necessary authority to make decisions related to the improvement and effectiveness of the SMS.						
3.3.2	The SMS is periodically reviewed for improvements in safety performance.						

EXCELLENCE AND BEST PRACTICE MARKERS		P	S	O	E	How it is achieved	HCAA Remarks
3.3.3	There is evidence of continuous improvement of the SMS						
3.3.4	Evidence of lessons learnt are incorporated into the policy and procedures.						
3.3.5	The organisation benchmarks its SMS against other organisations and is an active promoter of SMS within the aviation industry						
3.3.6	Best practice is sought and embraced.						
3.3.7	Surveys and assessments of organisational culture are carried out regularly and acted upon.						
3.3.8	For safety related services the organisation requires contracted organisations to have an SMS						
3.3.9	For safety related services the SMS of the contracted organisation is interactive with that of the contracting organisation.						

3.3 EFFECTIVENESS is achieved when the organisation routinely monitors the SMS performance to identify potential areas of improvement and the outcomes of this process lead to improvements to the safety management system.	**Effectiveness Not Achieved**		**HCAA REMARKS**
	Effectiveness Achieved		
	Signs of Excellence		
	Excellence		

4.0 SAFETY PROMOTION

4.1 TRAINING AND EDUCATION OR*GEN.200 (a) (4)

All personnel are trained and competent to perform their SMS related duties and the training programme is monitored for its effectiveness and updated.

COMPLIANCE + PERFORMANCE MARKERS		**P**	**S**	**O**	**E**	**How it is achieved**	**HCAA Remarks**
4.1.1	There is a documented process to identify Safety Management training requirements so that personnel are competent to perform their duties						
4.1.2	There is a process in place to measure the effectiveness of training and to take appropriate action to improve subsequent training.						
4.1.3	There is a process that evaluates the individual's competence and takes appropriate remedial action when necessary						
4.1.4	Training includes initial and recurrent training						
4.1.5	A training record is maintained for each employee trained						
EXCELLENCE AND BEST PRACTICE MARKERS		**P**	**S**	**O**	**E**	**How it is achieved**	**HCAA Remarks**
4.1.6	Training includes human and organisational factors including non technical skills with the intent of reducing human error						
4.1.7	Training requirements are documented for each area of activity within the organisation, including areas where training requirements are not defined by regulations.						
4.1.8	A training needs analysis is carried out for all staff and is regularly reviewed.						
4.1.9	Training is provided for third party contractors working in activities related to the company's operation.						
4.1.10	Employees have a mechanism to request additional SMS training in relation to their role in SMS.						
4.1.11	Management recognise and uses informal opportunities to instruct employees on safety management						
4.1.12	Training includes attendance at symposiums and industry conferences.						
4.1.13	Training exercises and methods for all employees are kept						

	current to reflect new techniques, technologies, results of investigations, corrective actions and regulatory changes.						
4.1.14	An annual training plan is in place.						

4.1 EFFECTIVENESS is achieved when all personnel are trained and competent to perform their SMS related duties and the training programme is monitored for its effectiveness and updated.	**Effectiveness Not Achieved**		**HCAA REMARKS**
	Effectiveness Achieved		
	Signs of Excellence		
	Excellence		

4.2 SAFETY COMMUNICATION OR*.GEN.200 (a) (4)

The organisation shall develop and maintain formal means for safety communication that ensures that all personnel are fully aware of the SMS, conveys safety critical information, and explains why particular safety actions are taken and why safety procedures are introduced or changed.

COMPLIANCE + PERFORMANCE MARKERS		P	S	O	E	How it is achieved	HCAA Remarks
4.2.1	Safety initiatives and strategies are communicated throughout the organisation to staff						
4.2.2	Significant events and investigation outcomes are communicated to staff, including contracted organisations where appropriate.						

EXCELLENCE AND BEST PRACTICE MARKERS		P	S	O	E	How it is achieved	HCAA Remarks
4.2.3	There is a safety communication strategy that includes electronic communication, frequent meetings, SMS award systems, employee recognition system, SMS bulletins etc						
4.2.4	Significant events and investigation outcomes from external sources are communicated to staff including contracted organisations where appropriate.						
4.2.5	The effectiveness of safety communication is routinely assessed and the strategy revised as required.						
4.2.6	Safety-related information is proactively shared with other parties.						

4.2 EFFECTIVENESS is achieved when personnel are aware of the SMS, safety critical information and their role in respect of aviation safety.	**Effectiveness Not Achieved**		**HCAA REMARKS**
	Effectiveness Achieved		
	Signs of Excellence		
	Excellence		

SMS Evaluation Summary

Effectiveness Index	Initiating	Present and suitable	Operating	Effective	Excellence
The SMS as a whole	The SMS is still at the implementation stage	Achieved a successful phase 1 assessment	The systems and processes of the SMS are operating.	The SMS is working in an effective way and is striving for continuous improvement	The organisation is an industry leader and embraces and shares its best practice
Safety Policy and Objectives	The SMS is still at the implementation stage	Achieved a successful phase 1 assessment	There is a safety policy in place and Senior Management are committed to making the SMS work and is providing appropriate resources to safety management .	Senior Management are clearly involved in the SMS and the Safety Policy sets out the organisations intent to manage safety and is clearly evident in the day to day operations	The organisation is an industry leader and embraces best practice
Safety Risk Management	The SMS is still at the implementation stage	Achieved a successful phase 1 assessment	The hazard and risk registers are being built up and risks are starting to be managed in proactive manner.	The organisation is continuously identifying hazards and understands it biggest risks and is actively managing them and this can be seen in their safety performance. Safety Risk management is proactive and predictive.	Key Personnel throughout the organisation are aware and understand the risks relative to their responsibilities and are continuously searching out new hazards and risks and re-evaluating existing risks
Safety Assurance	The SMS is still at the implementation stage	Achieved a successful phase 1 assessment	The Organisation has established SPIs that it is monitoring and is auditing and assessing its SMS and its outputs	The organisation assures itself that is has an effective SMS and is managing its risk through audit, assessment and monitoring of its safety performance.	The organisation is continuously assessing it approach to safety management and is continuously improving its safety performance and seeking out and embracing best practice
Safety Promotion	The SMS is still at the implementation stage	Achieved a successful phase 1 assessment	The organisation has trained its people and has several mediums for safety promotion that it uses for passing on safety information	The organisation puts a considerable resource and effort into training its people and publicising its safety culture and other safety information and monitors the effectiveness of its safety promotion	In addition the organisation provides training and safety promotion to its contracted service providers and assesses the effectiveness of its safety promotion