

## **CAP 726**

# **Guidance for Developing and Auditing a Formal Safety Management System**

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# Chapter 1      Guidance for Developing and Auditing a Formal Safety Management System

## 1      Introduction

There is no recognised standard in aviation for defining a typical Safety Management System (SMS). So it has been necessary to adapt best practice from other industries in order to provide guidelines for those parts of the aviation industry that wish to implement a formal SMS.

## 2      SMS Components

2.1      The Policy and Principles (P&Ps) define the components of an organisation's SMS. These have been derived from the lessons learned from a wide variety of disastrous accidents where management failures were cited as a significant contributory cause (factors which made the accident more likely to occur). The P&Ps could be considered as a hazard checklist for identifying any potential risks of **management failures** causing or contributing to an accident; the adoption of an effective formal SMS could be considered as a risk reduction exercise to minimise such failures as far as is reasonably practicable.

2.2      Common-sense is required in interpreting the P&Ps for application within an organisation because every organisation is different, as are their safety cultures. The following points must be borne in mind:

- **Almost all activities or initiatives** to maintain or improve an organisation's safety performance can be accommodated under one or other of the P&P issues defined below.
- **Not all will be applicable to every type of organisation.** On the other hand, additional policies and principles can be added to meet the specific needs or role of the organisation.
- In development of an SMS designed to manage all of the risks associated with aircraft production, maintenance or operation, it needs to be constantly borne in mind that **the risks being managed are those associated with causing or contributing to an aircraft accident.** Health and Safety Risks should be managed under the Health and Safety Executive's specific guidelines and are outside the scope of the CAA's regulatory authority.
- It is **unlikely and probably undesirable** that an organisation should attempt to introduce a complete SMS in a short timescale, although definition of the organisation's SMS P&Ps, signed off by the Board, and senior managers' safety accountabilities should be the initial task. It is for the organisation to decide which components should have priority for introduction if training or new processes need to be developed. Obviously it is sensible to start with the simplest for the organisation to implement.

### 3 Documentation

A formal SMS needs to be documented to ensure traceability, standardisation and communication - just as does a Quality Management System. Normal practice is to produce a Safety Management Manual promulgating an organisation's SMS P&Ps, senior managers' safety accountabilities and procedures derived from the P&Ps **that are common to the whole organisation**. Detailed local procedures in other documents can be cross-referenced from the manual or reside in local departmental SMS Manuals. Hence the Safety Management Manual is likely to be a thin document.

### 4 Use of this Guidance

The following pages record the issues that are likely to be covered in the various Safety Management Systems that you encounter, or what you might expect to see on an audit of an SMS. The checklist could also be used in setting up an SMS. However, it should be noted that although the guidance document refers to statements, the language used must be owned by the organisation implementing the SMS system.



## **Chapter 2     Safety Management Systems Policy Statements**

Board level approved safety policy statements which are likely to cover:

- 1        A statement of intent about maintaining or improving current safety performance.
- 2        A statement of intent to minimise the risks of an accident occurring - probably with the 'as far as is reasonably practicable' caveat.
- 3        A statement of intent to implement an effective formal safety management system.
- 4        A statement about individual and management responsibility for safety performance.
- 5        A statement about the priority ascribed to flight safety relative to commercial, operational, environmental and working practice pressures.
- 6        A statement about compliance with safety standards and regulatory requirements.
- 7        A statement about ensuring sub-contractors meet company safety standards and requirements.

## SMS Policy Statements

### 1 A statement of intent about maintaining or improving current safety performance.

Areas for Consideration		Current Practice
1	Is there a formal safety policy statement?	
2	Does the safety policy statement explicitly address aviation safety?	
3	Does the safety policy define the intent to maintain or improve the current safety performance?	
4	Is the safety policy statement endorsed by the Board?	
5	Is the safety policy statement signed by the current head of the organisation?	
6	Is the safety policy statement reviewed and revised at suitable intervals?	
7	Is the safety policy publicised within the organisation in such a way that all those staff with a responsibility for aircraft safety are aware of the policy?	
8	Does the safety policy statement indicate that safety will be managed pro-actively?	

## 2 **A statement of intent to minimise the risks of an accident occurring - probably with the 'as far as is reasonably practicable' caveat.**

Areas for Consideration	Current Practice
1 Is the safety policy to minimise aviation risks to as far as is reasonably practicable?	
2 Are required levels of safety defined?	
3 Does the SMS specifically address the control of potential aviation safety risks?	
4 How is 'reasonably practicable' defined if the term is used?	
5 How are the required levels of safety shown to cover all potentially hazardous aviation activities?	
6 How often are the required levels of safety reviewed to check they are still appropriate?	

## 3 **A statement of intent to implement an effective formal safety management system.**

Areas for Consideration	Current Practice
1 Does the safety policy statement state that safety will be managed through the application of a formal safety management system?	
2 Does the Board or most senior level of management endorse the implementation of a formal SMS?	
3 Is there an overview of the SMS that explains its structure and approach?	
4 Is the overview of the SMS readily available to staff?	
5 How is the SMS supported by the management?	

#### 4 **A statement about individual and management responsibility for safety performance.**

Areas for Consideration	Current Practice
1 Does the safety policy statement state that each individual has a responsibility for the safety of their own actions?	
2 Does the safety policy statement state that managers are accountable for the safety performance of the activities for which they have responsibility?	
3 Does the safety policy statement state who is ultimately accountable for safety in the organisation?	
4 Is the person ultimately accountable for safety in the organisation, the senior executive officer in the organisation?	
5 Is there a logical flow, within the organisation, of accountabilities and responsibilities for safety?	
6 Is there a nominated post responsible for safety assurance in the organisation?	
7 Does the person responsible for safety assurance report directly to the Board?	
8 In so far as is practical, given the size of the organisation, is there a managerial and reporting separation between staff performing safety assurance roles and those staff with operational responsibilities?	

**5 A statement about the priority ascribed to flight safety relative to commercial, operational, environmental and working practice pressures.**

Areas for Consideration	Current Practice
1 Does the safety policy define the priority that safety is to be given in the organisation?	
2 Is there an explanation of what the safety priority statement means in practice?	
3 What measures are taken to assess the priority level set for aviation safety?	

**6 A statement about compliance with safety standards and regulatory requirements.**

Areas for Consideration	Current Practice
1 Does the safety policy explicitly state that the organisation will comply with all appropriate external safety standards and requirements?	
2 Who is responsible for identifying relevant external safety standards and requirements?	
3 How, and by whom, are internal safety standards, procedures and work instructions prepared?	
4 How are the relevant external and internal safety standards and requirements indicated to the staff performing the work?	
5 How often are the lists of appropriate safety standards and requirements reviewed to ensure they remain current, relevant and complete?	
6 How, are non compliances to internal safety standards identified and dealt with?	
7 How, are non compliances to external safety standards identified and dealt with?	
8 Where, and by whom, are copies of all appropriate safety standards and requirements kept?	

## 7 A statement about ensuring sub-contractors meet company safety standards and requirements.

Areas for Consideration		Current Practice
1	Does the safety policy state that external suppliers must satisfy the organisation's relevant safety management standards and safety requirements?	
2	How are the safety requirements for external suppliers determined and by whom?	
3	How, and by whom, are safety requirements communicated to external suppliers?	
4	How, and by whom, is it decided whether a potential external supplier has an acceptable SMS in place before being awarded a contract or order?	
5	Are safety requirements on suppliers contractually binding?	
6	What procedures are in place to check that external suppliers comply with the safety requirements put on them?	
7	How is the competence of external supplier/contractor staff checked?	

## Chapter 3 Typical Safety Management Principles

Safety management principles define the components or scope of a Safety Management System.

- 1 Published safety accountabilities (where applicable) of managers and key staff/appointments.
- 2 Arrangements to conduct internal safety incident investigations and implement remedial action.
- 3 Arrangements for recording and monitoring the overall safety standards of the organisation (usually a record of significant safety incidents), if applicable.
- 4 Arrangements to report (internally and externally) the results of investigations and dissemination of the lessons learned.
- 5 Arrangements to carry out regular safety audits, reviews or surveys within the organisation and for ensuring that agreed actions are implemented.
- 6 Arrangements for ensuring staff are adequately trained and competent for the job they are required to do.
- 7 Supervision arrangements for early detection of deviations from intended practices or procedures that degrade safety.
- 8 Arrangements for monitoring any deterioration in performance of safety significant equipment or systems, if applicable.
- 9 Arrangements enabling staff to communicate significant safety concerns to the appropriate level of management for resolution.
- 10 Arrangements to identify and address potential risks arising from changes in operations, systems, procedures and staff associated with safety significant functions or activities.
- 11 Where applicable, arrangements for the conduct of formal safety assessment processes required for certification/approval and the standards used (e.g. JAR 25.1309, ARP 4761, ARP 4754, DO178B, local standards etc.).

## Typical Safety Management Principles

### 1 Published safety accountabilities (where applicable) of managers and key staff/appointments.

Areas for Consideration		Current Practice
1	Are safety accountabilities promulgated for all applicable Board members, managers and key staff?	
2	Are safety accountabilities promulgated for key appointments (e.g. shift managers, specialists etc.)?	
3	Are safety accountabilities reviewed after a significant organisation change has taken place?	
4	Are there any obvious gaps in the allocation of accountabilities?	
5	Are there any overlaps or duplication of accountabilities that could cause confusion?	
6	If the organisation is a part, subsidiary or division of a parent organisation, is safety accountability and reporting linked into the parent organisation?	



## 2 Arrangements to conduct internal safety incident investigations and implement remedial action.

Areas for Consideration	Current Practice
1 Is the process for recording and investigating safety significant occurrences explicitly defined?	
2 Is the range/scope of safety significant occurrences which must be recorded explained/defined?	
3 Does the investigation of safety significant occurrences include the identification of any safety management failures?	
4 How, and by whom, are safety significant occurrences reported?	
5 How, and by whom, are the reports of safety significant occurrences to be investigated and recorded?	
6 Who decides if corrective action is necessary?	
7 How are corrective actions monitored to ensure that they are implemented and that they solve the identified deficiency?	

### 3 Arrangements for recording and monitoring the overall safety standards of the organisation (usually a record of significant safety incidents), if applicable.

Areas for Consideration		Current Practice
1	What procedures exist for recording and monitoring safety significant incidents?	
2	Who sets the requirements for recording safety significant incidents?	
3	Where, and by whom, are the records of compliance with safety standards kept?	
4	Is there a process for monitoring and assessing the records of safety significant incidents?	
5	How long should records be kept?	
6	Is the format for safety significant records defined?	
7	Are the safety records reviewed at appropriate intervals to confirm that they are still relevant?	
8	How are the safety records used to support the overall unit Safety Assurance Document (e.g. Safety Case or Aerodrome Manual)?	

#### 4 Arrangements to report (internally and externally) the results of investigations and dissemination of the lessons learned.

Areas for Consideration	Current Practice
1 Is the process for disseminating “lessons learnt” from hazardous occurrences explicitly defined?	
2 How, and by whom, are relevant “lessons learnt” identified from internal hazardous occurrences?	
3 How, and by whom, are relevant “lessons learnt” identified from external hazardous occurrences?	
4 How, and by whom, is it decided what information needs to be disseminated?	
5 How, and by whom, is the information disseminated?	
6 How, and by whom, is the effectiveness of the dissemination monitored?	
7 How is it confirmed that “lessons learnt” are incorporated appropriately into the safety culture and the organisation’s long-term memory?	

## 5 Arrangements to carry out regular safety audits, reviews or surveys within the organisation and for ensuring that agreed actions are implemented.

Areas for Consideration		Current Practice
1	Is there a detailed requirement for safety audits, reviews or surveys?	
2	Who plans and schedules safety audits, reviews or surveys?	
3	Is the appropriate maximum interval between safety audits, reviews or surveys defined?	
4	Who determines the scope of a safety audit, review or survey?	
5	How, and by whom, are audits, reviews or surveys of external suppliers initiated and performed?	
6	How are the findings of audits, reviews or surveys recorded?	
7	Who determines the need for corrective actions arising from the results of safety audits, reviews or surveys?	
8	Who determines the timescales for the corrective actions?	
9	How are the results of safety audits, reviews or surveys made known to appropriate staff and senior management?	

## 6 Arrangements for ensuring staff are adequately trained and competent for the job they are required to do.

Areas for Consideration	Current Practice
1 Is the management of competency for safety significant roles and/or responsibilities explicitly addressed?	
2 Does the management of competency extend beyond the necessary licensing of individuals?	
3 How, and by whom, are the competency requirements determined for safety significant roles and/or responsibilities?	
4 Where are the competency requirements for safety significant roles and/or responsibilities recorded?	
5 Is there any training in the concept of pro-active safety management?	
6 Is the effectiveness of the pro-active safety management training monitored and, where necessary, reinforced?	
7 How, and by whom, is it decided if a member of staff meets the competency requirements for safety significant roles and/or responsibilities?	
8 How, and by whom, is the evidence kept that staff are competent for safety significant roles and/or responsibilities?	
9 Where, and by whom, is the appropriate period for which competency records must be retained defined?	
10 How often, and by whom, are staff competencies reviewed to ensure that the staff remain competent for safety significant roles and/or responsibilities?	
11 How is the competence of external supplier/contractor staff checked?	
12 What process is followed if it is determined that a member of staff is not fully competent for the safety significant role assigned?	
13 Does the competency management process address the improvement of currently competent staff (e.g. to ensure that staff are more than minimally competent and/or to prepare for future roles)?	

## 7 Supervision arrangements for early detection of deviations from intended practices or procedures that degrade safety.

Areas for Consideration		Current Practice
1	How do the arrangements enable detection of deviations?	
2	Are those procedures and practices recorded?	
3	Is supervision proportionate to the safety criticality of the practice or procedure?	
4	Are practices and procedures that affect safety routinely monitored through audit?	
5	Can it be determined from the monitoring of safety significant incidents that these may be a result of deviation from intended practices or procedures?	
6	Is there a method for determining if a deviation from intended practices or procedures has a safety impact in other areas?	

## 8 Arrangements for monitoring any deterioration in performance of safety significant equipment or systems, if applicable.

Areas for Consideration		Current Practice
1	Is there a method of determining if safety significant equipment meets the requirements?	
2	Who determines if the maintenance levels are appropriate?	
3	Are there formal records of performance of the safety significant equipment or systems?	
4	Does the monitoring of the records of safety significant incidents highlight where equipment or systems fail?	
5	Does the monitoring of the records of safety significant incidents highlight where any deterioration in equipment or systems has had an impact on that incident?	
6	Is there a method for determining if the deterioration in one area of safety significant equipment or systems has a safety impact on another area?	

## 9 Arrangements enabling staff to communicate significant safety concerns to the appropriate level of management for resolution.

Areas for Consideration	Current Practice
1 Does a safety improvement process exist, in addition to the implementation of corrective action following safety significant occurrences or safety audits?	
2 What processes are in place enabling staff to raise safety concerns with senior management?	
3 How do senior management actively participate in the safety improvement programme?	
4 How, and by whom, are staff encouraged to offer safety improvement suggestions?	
5 How, and to whom, are staff to present their safety improvement suggestions?	
6 How, and by whom, are safety improvement suggestions investigated and, where appropriate, agreed?	
7 How, and by whom, are decisions/progress on their safety improvement suggestions fed back to the proposer?	



**10 Arrangements to identify and address potential risks arising from changes in operations, systems, procedures and staff associated with safety significant functions or activities.**

Areas for Consideration	Current Practice
1 How, and by whom, are all proposed changes, (including additions, replacements and removals) to operations, procedures or equipment to be assessed to determine their safety significance with respect to aviation safety?	
2 How is the person (or group) accountable for safety assurance made aware of those operations or changes that have safety significance?	
3 How, and by whom, are safety assessments performed on all those aspects determined to have safety significance with respect to aviation?	
4 Does the safety assessment evaluate the severity of the consequences of the hazard, its probability of occurrence and its tolerability against safety criteria?	
5 Who decides if a hazard is tolerable or if further risk reduction is required?	
6 How, and by whom is any necessary risk reduction managed?	
7 How is the person ultimately accountable for safety made aware of any perceived intolerable risks arising from change?	

**11 Where applicable, arrangements for the conduct of formal safety assessment processes required for certification/approval and the standards used (e.g. JAR 25.1309, ARP 4761, ARP 4754, DO178B, local standards etc.).**