Components of an SMS

This table highlights 'at a glance', acceptable means of compliance, guidance notes as well as further information for the components and elements of an SMS.

COMPONENT 1 – SAFETY POLICY AND OBJECTIVES

Element 1 Safety policy and accountability

Safety policy and goals

Acceptable Means of Compliance

There is a safety policy endorsed by the CEO, and communicated to all personnel.

The CEO and the senior management team promote and demonstrate their commitment to the safety policy through active and visible participation in the system for safety management.

The safety policy has been developed including the following:
- senior management commitment and intentions with regard to safety
- establishment of safety as a core value
- a commitment to continuous improvement of the performance of the SMS
- provision of appropriate resources
- non-punitive reporting policy (Just Culture)
- recognition that compliance with procedures, standards and rules is the duty of all personnel.

Evidence of regular review and revision as required.

Guidance Notes

There is one safety policy used throughout the organisation and it is implemented at all levels of the organisation.

The organisation has a safety management system that interfaces with other management system functions (e.g. quality, environmental, finance etc.).

Safety policy objectives drive the safety performance of the organisation.

The organisation regularly ensures that personnel throughout the organisation are familiar with and have understood the policy and their safety responsibilities.

The non-punitive reporting (Just Culture) policy is actively endorsed by management and personnel representatives.

There is evidence of decision making, actions and behaviours that reflect a positive safety culture.

Further Information

For more information on the development of an effective and meaningful safety policy, safety goals and objectives; research using the following key phrases:
- establishing and maintaining safety accountability
- setting safety goals and objectives
- demonstrating accountability and commitment.

Safety accountabilities

Acceptable Means of Compliance

A chief executive has been appointed with full responsibility and ultimate accountability for the SMS to ensure it is properly implemented and performing effectively.

Safety accountabilities, authorities and responsibilities are defined and documented throughout the organisation.

Personnel at all levels, are aware of, and understand their safety accountabilities, authorities and responsibilities regarding all safety management processes, decisions and actions.

There are documented management organisational diagrams and job descriptions for all personnel.

Safety management is shared across the organisation (and is not just the responsibility of the safety manager and his/her team).

Guidance Notes

Key safety activities are clearly described in senior management duties and responsibilities are incorporated into personnel performance targets.

Management recognises positive safety behaviours and contributions to maintain the organisation's SMS.

There is evidence of personnel involvement and consultation in the establishment and operation of the SMS.

Appointment of key safety personnel

Acceptable Means of Compliance

A competent person with the appropriate knowledge, skills and experience has been appointed or engaged to manage the operation of the SMS and fulfils the required job functions and responsibilities.

Key personnel in an emergency have easy access to the ERP at all times.

The organisation has a process to distribute the ERP procedures and to communicate the content to all personnel.

The ERP is periodically tested for the adequacy of the plan and the results reviewed to improve its effectiveness.

Guidance Notes

The person responsible for managing the SMS is given appropriate status in the organisation reflecting the importance of the safety role within the organisation and is independent of line management.

If the organisation is combining the senior person for managing the SMS role with other senior person roles for operational functions, in conflict of interest situations an independent person is either employed directly or contracted by the organisation to maintain system integrity.

Individuals within the organisation that have a key safety role have their knowledge maintained through additional training and attendance at industry relevant conferences, seminars and workshops.

Element 2 Coordinated emergency response planning

Acceptable Means of Compliance

An emergency response plan (ERP) 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.

Safety system procedures are commensurate with the complexity of the organisation and are available to all personnel.

SMS documentation is readily available to all personnel.

SMS documentation, including SMS related records, are regularly reviewed and updated with appropriate version control in place.

The SMS documentation details and references the means for the storage of other SMS related records.

Safety records are retained and demonstrate system performance.

Guidance Notes

Emergency authority has been delegated.

Emergency responsibilities during coordinated activities have been assigned.

Processes to record activities during an emergency response have been implemented.

Compatibility with emergency response planning of other stakeholders (e.g. other airfield users, neighbouring aviation operations, alliance partners, etc.) has been established.

The organisation has liaised with emergency service providers and government authorities.

The process for updating change of personnel / organisation and contact lists is in place.

The organisation has implemented a Critical Incident Stress Management programme for its personnel.

Further Information

For more information on the development of an effective ERP, research using the following key phrases:
- benefits of implementing an ERP
- initial response actions
- establishing a crisis response centre
- records to be kept during and after an ERP exercise or occurrence
- an operator's responsibilities at an accident site
- how to handle the media
- family assistance responsibilities
- post critical-incident stress debriefing
- maintaining hardcopy references.

Element 3 Development, control and maintenance of safety management documentation

Acceptable Means of Compliance

There is documentation that describes the safety management system and the interrelationships between all of its elements.

Guidance Notes

Specific templates have been created that support safety risk management and safety assurance activities.

The organisation can demonstrate that safety management processes are integrated into other organisational systems.

The organisation has selected the most appropriate medium for the delivery of documentation at both the corporate and operational levels.

Further Information

For more information on the development of an effective document control system, research using the following key phrases:
- structuring a safety management manual
- safety records.

COMPONENT 2 – SAFETY RISK MANAGEMENT

Element 4 Hazard identification

Acceptable Means of Compliance

Documented and demonstrated means that ensure aviation safety hazards, including near misses and errors are identified.

Documented process that ensures identified hazards are recorded, analysed and acted on in a timely manner.

Documented process to provide feedback to the reporter of any actions taken (or not taken) and, where appropriate, how to disseminate this to the rest of the organisation.

Documented process to establish causal contributing factors, i.e. why the event occurred and not just what happened.

Guidance Notes

Differentiate between different types of hazards.

Determine a suitable hazard identification process for the organisation.

Determine formal hazard reporting and recording processes.

Determine a suitable hazard control process, including responsibilities.

Determine appropriate monitoring processes.

Ensure that there is a documented trail from identification through to resolution for each hazard identified.

Maintain a register of hazards.

Train all personnel on hazard identification and reporting.

Integrate human factors into hazard identification and reduction.

Further Information

For more information on the development of effective hazard identification processes, research using the following key phrases:
- aviation safety hazard identification
- aviation human performance related hazards.

Element 5 Risk management

Acceptable Means of Compliance

Documented process for the management of risk that includes the assessment of risk associated with identified hazards.

Documented process and criteria for evaluating the level of risk of the organisation is willing to accept.

Documented method for recording risks and the treatment strategies taken, including timelines and responsibilities.

Documented procedures to review and revise risk management processes on a periodic basis.

Guidance Notes

Implementation of different risk identification processes such as conducting risk assessments when operational changes take place (e.g. new aircraft type, new maintenance facility, new air traffic management software systems).

Implementation of risk reporting and recording processes, available to all personnel and involving key personnel in the analysis process.

Development of risk control and monitoring process such as the use of a risk register, and regular meetings to discuss risk treatment strategies.

Development of risk communication processes such as regular alert messages to personnel, training, etc.

Development and implementation of operational risk profiles can be a way to achieve all of the above.

Further Information

For more information on the development of an effective risk management system, research using the following key phrases:
- operational risk management
- risk profiling: strategic risk management
- enterprise risk management
- ALARP
- risk management concepts
- three lines of defence assurance.

COMPONENT 3 – SAFETY ASSURANCE

Element 6 Safety investigations

Acceptable Means of Compliance

Documented and demonstrated means for conducting internal safety investigations.

Internal safety investigator(s) appointed and appropriately trained.

Guidance Notes

There is a documented trail from identification to resolution when an investigation is completed.

There is a clear record of the investigation process, findings, and required actions.

There are formal procedures to trigger investigations, processes for gathering evidence and conducting the analysis, processes for developing recommendations, and for distributing the report.

There are processes for monitoring and review of actions taken in response to safety investigation.

Criteria for the safety investigator skills and knowledge are established and documented.

Further Information

For more information on the implementation of an effective safety investigation capability, research using the following key phrases:
- data collection methods and processes
- safety investigation analysis theories and methods
- writing a safety investigation report
- qualities and qualifications of a safety investigator
- human factors
- investigation and analytical techniques
- cause and effect analysis
- Reason model.

Element 7 Monitoring and measuring safety performance

Acceptable Means of Compliance

Documented and demonstrated means of monitoring safety performance.

Documented process to identify reactive, proactive and interactive sources of safety data.

Documented and demonstrated means to measure safety performance through set indicators.

Safety performance targets established consistent with the organisation's safety objectives.

Guidance Notes

Implementation of a safety reporting system.

Surveying of personnel' perceptions of safety within the organisation (e.g. a safety culture survey).

Systematic capturing of data to help contextualise statistics (e.g. number of occurrences per month, number of defect reports per month, etc.).

Communication of results to all personnel.

Developing methods to track how the safety management system is working (e.g. balanced scorecard).

Establishing regular meetings to review safety performance.

Further Information

For more information on the development and implementation of effective performance monitoring and measuring, research using the following key phrases:
- Lagging and leading performance indicators
- Measuring safety performance for service providers.

Element 8 Management of change

Acceptable Means of Compliance

Documented process to conduct aviation safety-related hazard analysis and risk assessments for changes within the organisation, including changes to senior management and operations that may affect safety.

Documented process to ensure appropriate internal and external stakeholders are involved in the management of change process.

Documented management of change process includes the review of previous risk assessments and existing hazards as appropriate.

Documented process to record the outcome of each stage of the plan.

Guidance Notes

Processes are established for:
- hazard and risk identification
- risk reporting and recording
- risk control (including responsibilities)
- risk monitoring (including responsibilities)
- communication of risks.

Further Information

For more information on the development and implementation of change management processes, research using the following key phrases:
- change management principles
- change management process
- change management in project management
- risk management.

Element 9 Continuous improvement of the SMS

Acceptable Means of Compliance

Documented process that shows how the organisation uses its performance monitoring and measuring procedures and internal audit programme to inform the management review process so that actions can be taken to improve the effectiveness of the SMS.

Documented action plan and allocation of resources to achieve improvements.

Guidance Notes

Surveys or other feedback mechanisms are conducted to gauge the safety performance (e.g. safety climate surveys).

Maintenance of safety management processes and systems is implemented to facilitate continuous improvement.

Quality and safety improvement mechanisms (e.g. suggestion boxes, internal reporting system, safety review teams) are implemented.

Further Information

For more information on how to achieve continuous improvement, research using the following key phrases:
- continuous improvement
- stages of safety maturity;
- Kaizen
- 'Plan, Do, Check, Act' model.

Element 10 Internal audit programme

Acceptable Means of Compliance

Documented audit programme.

An internal audit procedure which defines audit types, and associated procedures, and identifies the personnel who will conduct the audit.

Audits performed by trained and independent auditing personnel.

Audit results reported to the personnel responsible for activity.

Preventive or corrective action taken in response to problems identified during the audit. These actions are monitored to ensure they are appropriate, have been implemented in a timely manner, and are effective.

Root cause analysis is utilised to identify the causes of non-conformances or non-compliances.

The operation of the internal audit programme is subject to independent audit.

Audit reports documented and communicated.

Guidance Notes

Ensure the audit programme has been developed and resourced to be sufficiently flexible so that it can accommodate a risk-based approach.

The person(s) nominated to do the audit should be independent of the function, operation or group being audited.

Take an evaluative approach to auditing, to make the most of the resources and time required.

Ensure that audits are planned, and well documented; all findings and subsequent actions should be tracked and monitored.

Ensure that the personnel conducting audits are adequately trained and experienced and maintain their skills.

Audit reports are easy to read with findings and corrective actions clearly stated.

Timeframes for implementing corrective actions are specified.

Further Information

For more information on the development and conduct of an effective audit programme, research using the following key phrases:
- principles and processes of auditing
- audit scheduling
- auditor competency.

Element 11 Management review

Acceptable Means of Compliance

Documented and demonstrated methods of conducting formal and regular reviews by senior management of the effectiveness of the SMS.

Structured agenda.

Documented processes specifying the frequency of management reviews.

Results of the review are evaluated and recorded.

Guidance Notes

Processes for documenting meetings, decisions and responsibilities are implemented.

Processes to follow up decisions and actions and to review effectiveness are implemented.

Documented analysis methods are used.

An agenda is published and circulated prior to meetings.

The review includes both reactive and proactive outputs.

Further Information

For more information on the process of conducting effective management reviews, research using the following key phrases:
- safety governance and oversight
- safety communication methods
- management accountability.

COMPONENT 4 – SAFETY PROMOTION

Element 12 Safety training

Acceptable Means of Compliance

Documented process to identify SMS training requirements so that personnel are competent to perform their duties.

Documented process to measure the effectiveness of training and take appropriate action to improve subsequent training.

Documented process that evaluates the individual's competence and takes remedial action when necessary.

Training programme includes initial and recurrent training.

Documented process specifying responsibilities for development of training content, scheduling and training record management.

Guidance Notes

Training needs analysis (to determine gaps and requirements for all personnel) is regularly reviewed.

A training syllabus that caters to the different safety responsibilities of personnel involved in the SMS is implemented. Refer Appendix E.

Training material consistent with the content of the organisation's SMS is developed.

Depending on personnel requirements, there is consideration of different training delivery methods.

Monitoring of training ensures all personnel are competent to perform their duties.

Further Information

For more information on the development of an effective safety training programme, research using the following key phrases:
- training needs analysis (TNA)
- safety training principles
- aviation safety training (including crew resource management/human factors).

Element 13 Communication of safety-critical information

Acceptable Means of Compliance

Demonstrated and documented means for safety communication that ensures personnel are aware of the SMS commensurate with their safety responsibilities.

It conveys safety critical information, and explains why particular safety actions are taken and why safety procedures are introduced or changed.

Guidance Notes

Regular safety communication processes (e.g. safety magazine, newsletters, regular emails, safety committee meetings, etc.) are developed and implemented.

Methods for personnel to provide feedback on safety issues are developed.

An awareness of the importance of communicating relevant safety information is fostered at all levels of the organisation and to external companies where appropriate.

Targeted safety promotion activities are conducted, not only within one's own organisation but with other relevant third party organisations.

Further Information

For more information on the process of conducting effective safety promotion and communication processes, research using the following key phrases:
- effective aviation safety promotion strategies
- processes for communicating safety-critical information
- determining effectiveness of safety communication and promotion activities.