Gap Analysis

Safety Management System

Taupo Airport Authority

29-Nov-17

CLASSIFICATIONS OF REPORT RATINGS & AUDIT FINDINGS

OVERALL PERFORMANCE

5	Well controlled.
4	Well controlled with some control weaknesses/opportunities for improvement identified.
3	Reasonable level of controls, however, some control weaknesses of concern identified
2	Adequate level of control in some areas, however, significant control weaknesses found in a number of areas.
1	Poorly controlled. Significant weaknesses in internal control. Little or no reliance to be able to be placed on information.

KEY FINDINGS

MATERIAL	A major control weakness or issue that exposes the organisation to a critical level of risk. Action plans addressing the audit issue must be developed by management prior to finalisation of the audit report. The applicable senior manager must sign off on acceptance of the issue and action plans. The action plan designed to address the audit finding must be implemented **prior to the final audit report being issued**. The status of other procedure or system action plans will be reviewed monthly by the Senior Management team and by the appropriate Board Committee at each meeting.
HIGH	A control weakness or an issue that exposes the organisation to a major / serious level of risk. Action plans addressing the audit issue must be developed by management prior to finalisation of the audit report. The action plan designed to address the audit finding must be implemented **within 1 month** of the final audit report being issued. The applicable functional or asset manager must sign off on acceptance of the audit issue and action plans. The status of other procedure or system action plans will be reviewed monthly by the Senior Management team and by the appropriate Board Committee at each meeting.
MEDIUM	A control weakness or an issue that exposes the organisation to a moderate level of risk. Action plans addressing the audit issue must be developed by management prior to finalisation of the audit report. The action plan designed to address the audit finding must be implemented **within 6 months** of the final audit report being issued. The applicable field operations or functional manager must sign off on acceptance of the audit issue and action plans. The status of action plans will be reviewed quarterly by the Management team.
LOW	An issue which represents a minor risk, resolution of which will improve the organisation's control environment. Action plans addressing the audit issue must be developed by management prior to finalisation of the audit report. Action plans will be monitored and implemented as part of management's continuous improvement process.

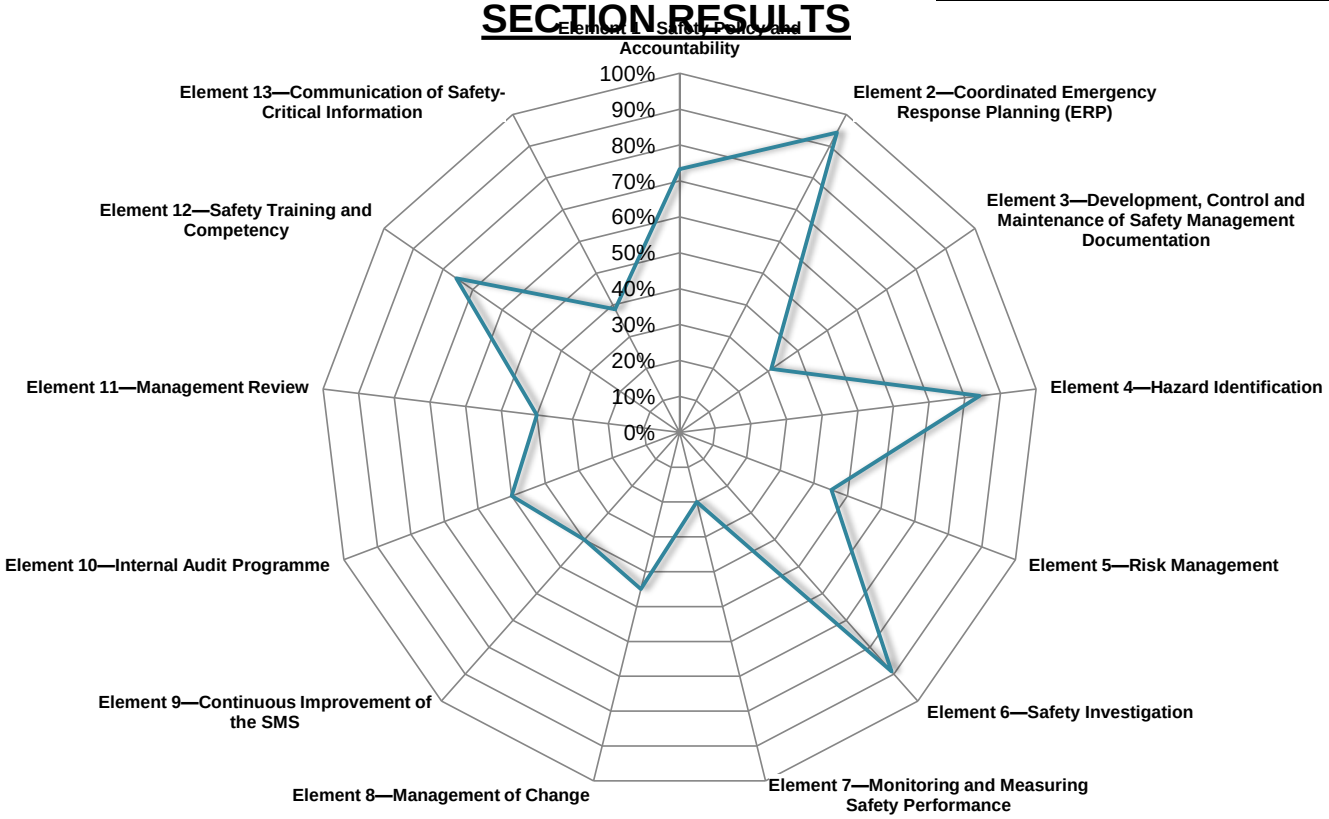
AUDIT RESULTS

SECTION	Results
Element 1 - Safety Policy and Accountability	73%
Element 2—Coordinated Emergency Response Planning (ERP)	94%
Element 3—Development, Control and Maintenance of Safety Management Documentat	31%
Element 4—Hazard Identification	84%
Element 5—Risk Management	45%
Element 6—Safety Investigation	89%
Element 7—Monitoring and Measuring Safety Performance	20%
Element 8—Management of Change	45%
Element 9—Continuous Improvement of the SMS	40%
Element 10—Internal Audit Programme	50%
Element 11—Management Review	40%
Element 12—Safety Training and Competency	76%
Element 13—Communication of Safety-Critical Information	39%
OVERALL SCORE	**56%**

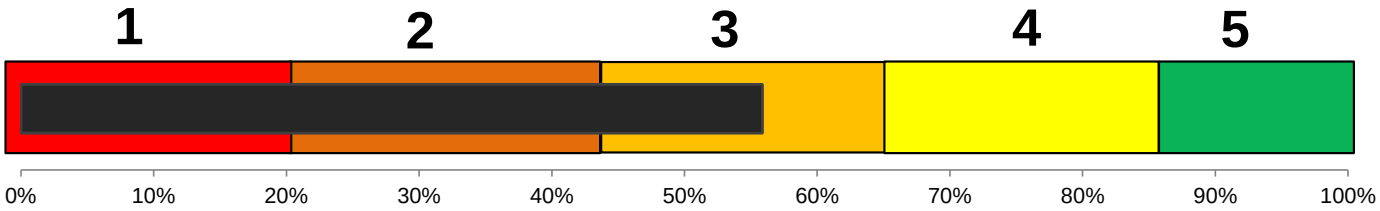
Key Findings

Material	0
High	0
Medium	0
Low	0

SECTION RESULTS



OVERALL AUDIT SCORE



Requirements

1.1 Safety Policy

A safety policy is a visible endorsement of the organisation's approach to managing safety. The organisation's safety policy should be developed in consultation with management and personnel representatives and be signed by the chief executive. With this formal acknowledgement, it is clear to all personnel that the chief executive endorses the SMS. Consideration should be given to where the safety policy sits in relation to other policies and how best to make it visible and available to all personnel. The policy should be effectively communicated, to ensure that all personnel and contractors understand the policy and their responsibilities and obligations in relation to safety management.

The safety policy should be clearly visible, or available, to all personnel (including significant contracted organisations) and be included in key documentation and communication media. The policy should include—

- 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.

The safety policy should be reviewed periodically to ensure it remains current. The organisation should regularly verify that personnel and contractors throughout the organisation are familiar with and have understood the policy.

Documents Submitted as Evidence

Last Revision Date	Document Title	Electronic/Hard Copy Location

Scoring

5 - Well Controlled	
4 - Opportunities for improvement identified	
3 - Some weaknesses of concern identified	
2 - Significant weaknesses found	
1 - Poorly controlled	

Rating

Material	A major control weakness or issue that exposes the organisation to a critical level of risk.
High	A control weakness or an issue that exposes the organisation to a major / serious level of risk.
Medium	A control weakness or an issue that exposes the organisation to a moderate level of risk.
Low	An issue which represents a minor risk, resolution of which will improve the organisation's control environment.

Element 1.1 Safety Policy

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
1.1.1	Is there a safety policy in place?	2	Minimal safety policy	
1.1.2	Does the safety policy reflect senior management's commitment regarding safety management?	1	Minimal	
1.1.3	Is the safety policy appropriate to the size, nature and complexity of the organization?	2	Minimal documentation	
1.1.4	Is the safety policy relevant to aviation safety?	2	Minimal documentation	
1.1.5	Is the safety policy signed by the accountable executive?	5	CEO	
1.1.6	Is the safety policy communicated, with visible endorsement, throughout the organisation?	3	Some documentation	
1.1.7	Is the safety policy periodically reviewed to ensure it remains relevant and appropriate to the organisation?	1	Update Terms of Reference for Safety Committee	
		7		
		35		
		16		
	Score	46%		

Total Material	0	Total Material	0
Total High	0	Total High	0
Total Medium	0	Total Medium	0
Total Low	0	Total Low	0

AC100 Safety Management (24 February 2016) Element 1 - Safety Policy and Accountability

Requirements

1.2 Management commitment and responsibility

Senior managers, and especially the chief executive, need to have a strong sense of ownership of the SMS. Implementing an effective safety management programme will not succeed without an absolute commitment at all levels of management to champion and strategically manage safety within the organisation. It is the responsibility of senior management to ensure that safety risks are systematically managed.

The first visible action of senior management commitment to safety is to develop and distribute safety related policies, goals and objectives. Goals and objectives are statements that describe what the organisation's SMS will accomplish, or the results that will be achieved. Ideally, the organisation will have a safety management system that interfaces with other management system functions (e.g. quality, environmental, finance etc.), there is one safety policy used throughout the organisation, and it is implemented at all levels of the organisation.

The policies and procedures promoted within an organisation will shape employees' attitudes towards safety. Effective safety management engenders a positive safety culture in which trust and respect exist at all levels of the organisation and where personnel feel supported when reporting safety issues. The chief executive 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. This could include evidence of decision making, actions and behaviours that reflect a positive safety culture, recognising positive safety behaviours in others, as well as external activity such as attending relevant industry safety conferences and forums.

Refer to section 2.7 of this advisory circular for further information on safety goals and objectives.

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2 - Significant weaknesses found	Low	An issue which represents a minor risk, resolution of which will improve the organisation's control environment.
1 - Poorly controlled		

Element 1.2 Management commitment and responsibility

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
1.2.1	Does the chief executive 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?	4	Safety Committee and inspections (reports in IRIS)	
1.2.2	Is there is evidence of decision making, actions and behaviours that reflect a positive safety culture?	3	Safety Committee and inspections (reports in IRIS), Council policy	
1.2.3	Does the chief executive demonstrates their commitment by attending relevant industry safety conferences and forums?	5	CAA run forums	
1.2.4	Is a non-punitive reporting policy is actively endorsed by management and staff representatives?	4	Safety Committee minutes	
		4		
		20		
		16		
	Score	80%		

Total Material	0
Total High	0
Total Medium	0
Total Low	0

AC100 Safety Management (24 February 2016) — Element 1 - Safety Policy and Accountability

Requirements

1.3 Safety accountabilities

The organisation's chief executive is the person who, irrespective of other functions, has ultimate responsibility and accountability, on behalf of the organisation, for the implementation and maintenance of the SMS. The corporate commitment statement is a clearly documented declaration of the organisation's decision makers' commitment to safety. It sits at the top of any document hierarchy, and should include, as a minimum, the following—
(a) the chief executive has—
(i) corporate authority for ensuring all activities can be financed and carried out to the required standard
(ii) final authority over operational matters
(iii) final accountability for all safety issues
(b) the organisation's documented procedures are approved by the chief executive and must be complied with at all levels.

The organisation should also identify the safety responsibilities, accountabilities and authorities of all members of senior management, irrespective of other functions, as well as personnel, with respect to the safety performance of the SMS. These should be documented and communicated throughout the organisation, and include a definition of the levels of management with authority to make decisions regarding safety risk tolerability.
In the context of SMS, safety accountability is the obligation of a person to demonstrate task achievement and safety performance in accordance with agreed expectations, and to be answerable for the performance within their scope. Safety accountability cannot be delegated.

Senior management must set and enforce the standards for safety management, and ensure adequate resources, both in terms of personnel and funding, are allocated to achieve those standards. Senior managers should place strong emphasis on safety as part of the strategy for controlling risks. This clarity should help personnel at all levels of the organisation to have a realistic view of the short-term and long-term risks their organisation may face.

Employee behaviour is directly influenced by organisational culture, which consists of shared beliefs, attitudes and practices set by the actions and behaviours of senior management. If senior management accepts accountability and responsibility for safety management, and is seen to be both proactive and willing to deal with emerging safety issues, the employees throughout the organisation are likely to adopt the same behaviours. However, all personnel have accountability for safety within their area of responsibility. This goes beyond the simple completion of assigned tasks, and instead focuses on the need to actively identify and seek ways of improving safety performance.

The question of safety accountability and responsibility also extends to organisations that engage third parties (agents or contractors) (e.g. ground handling agent, refueller, maintenance provider, cleaner, etc.). In these circumstances it is important to remember that while the third party is responsible for their own actions, the organisation that engages them is still accountable for the safety outcome to their customers.

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3 - Some weaknesses of concern identified	Medium	A control weakness or an issue that exposes the organisation to a moderate level of risk.
2 - Significant weaknesses found	Low	An issue which represents a minor risk, resolution of which will improve the organisation's control environment.
1 - Poorly controlled		

Element 1.3 Safety accountabilities

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
1.3.1	Has TAA identified an accountable executive who, irrespective of other functions, shall have ultimate responsibility and accountability, on behalf of the TAA, for the implementation and maintenance of the SMS?	5	CEO	
1.3.2	Does the accountable executive have full control of the financial and human resources required for the operations authorized to be conducted under the operations certificate?	5	Certificate exposition	
1.3.3	Does the Accountable Executive have final authority over all aviation activities of his organization?	5	CEO	

1.3.4	Has TAA identified and documented the safety accountabilities of management as well as operational personnel, with respect to the SMS?	2	Minimal documentation	
1.3.5	Is there a safety committee or review board for the purpose of reviewing SMS and safety performance?	5	Management review	
1.3.6	Is the safety committee chaired by the accountable executive or by an appropriately assigned deputy, duly substantiated in the SMS manual?	5	Terms of Reference	
1.3.7	Does the safety committee include relevant operational or departmental heads as applicable?	5	Terms of Reference	
1.3.8	Are there safety action groups that work in conjunction with the safety committee (especially for large/complex organizations)? [5.3.27 to 5.3.33; Appendix 4]	5	minutes RPAS	
		8		
		40		
		37		
	Score	93%		

Total Material	0
Total High	0
Total Medium	0
Total Low	0

AC100 Safety Management (24 February 2016) — Element 1 - Safety Policy and Accountability

Requirements

1.4 Appointment of key safety personnel

Where an organisation is required to have a senior person responsible for the system for safety management (will be referred to as the safety manager), this safety manager should be responsible for oversight and coordination of all SMS-related policies, procedures and activities, but is not responsible for ensuring or 'managing safety'. The safety manager should report to or have direct access to the chief executive and senior managers, and should not hold conflicting responsibilities for operational areas.

Note: that previous rule requirements for a senior person for quality assurance are superseded by the new requirement for a senior person responsible for the system for safety management, since quality assurance only forms part of the process for safety assurance.

This is an opportunity for the organisation to look at the division of roles and responsibilities afresh, not just maintaining the status quo. To effectively embed SMS within an organisation requires leadership and communication skills as much as relying upon the operational experience and technical expertise of the individual. The safety manager needs to be available to provide advice and encouragement to the chief executive and line managers on safety management matters. This may not be as successful, if the organisation relies upon contracted third parties that only visit the organisation periodically. In such cases it may be beneficial to the organisation to appoint an internal senior person as safety manager, while contracting in specialist support such as for audit and investigation activity. For further guidance on training and competencies for safety roles, refer to element 12.

Avoiding the potential for conflict of interest is relatively simple for larger organisations, where typically senior persons are only responsible for one operational function. However, in most small to medium organisations, the senior person responsible for the system for safety management may, subject to acceptance by the Director, combine this role with other senior person roles for operational functions. In such cases it may be appropriate to use an independent person, either employed directly or contracted by the organisation, to maintain system integrity.

An example of conflicting responsibilities might be a small organisation where the senior person responsible for the system for safety management is also responsible for occurrence investigation (Part 12) and crew training and competency assessment. Clearly if an investigation indicates that there may be deficiencies in crew training, there is a potential for conflict of interest. Having an independent competent person conduct or at least review the investigation and recommendations would be appropriate in that case. Similarly if the senior person responsible for the system for safety management (and therefore safety assurance) is also responsible for the control and scheduling of maintenance, performing an audit on their own work would clearly have the potential for conflict of interest. Again, the use of an independent competent person to perform the audit would be appropriate.

Depending upon the size and complexity of the organisation, the safety manager may need to be supported by a safety group. This could consist of representative members of management and operational personnel and may include people from other organisations or groups that the organisation has dealings with or links. Where an organisation has an existing group addressing occupational safety matters, there may be an opportunity to integrate the activities of both.

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1.4 Appointment of key safety personnel

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
1.4.1	Has TAA appointed a qualified person to manage and oversee the day-to-day operation of the SMS?	3	Need JD for Safety Manager	
1.4.2	Does the qualified person have direct access or reporting to the accountable executive concerning the implementation and operation of the SMS?	3	Edit org chart in exposition	
1.4.3	Does the manager responsible for administering the SMS hold other responsibilities that may conflict or impair his role as SMS manager?	4	Need JD for Safety Manager	
1.4.4	Is the SMS manager's position a senior management position and not lower than or subservient to other operational or production positions?	5	CEO	
		4		
		20		
		15		
	Score	75%		

Total Material	0
Total High	0
Total Medium	0
Total Low	0

Section Score	73%	**Section Total Material** **0**
		Section Total High **0**
		Section Total Medium **0**

Section Total Low	**0**

Requirements

Rule reference: 100.3(a)(2)

Some rule parts require organisations to have an 'emergency situation action plan' for handling in-air and on-ground emergency situations and minimising risk of injury to persons. SMS builds on and enhances this by encouraging multiple organisations to coordinate their emergency response planning so that the desired safety outcomes from emergency situations can be achieved.

Organisations engaged in aircraft operations should 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.

For service providers not located on an airfield, the emergency response plan might be as simple as documenting actions to be taken in the event that a customer experiences an emergency. Such actions would likely include communication channels and delegated emergency authorities, securing of documents, permitted access by investigators, identification of who can authorise return to normal operations. These may also be integrated with existing business continuity plans.

The organisation's intentions regarding, and commitment to dealing with, emergency situations and their corresponding recovery controls, should be documented and be commensurate to the size and complexity of the organisation. The emergency response plan (ERP) should have procedures for—

- orderly and efficient transition from normal to emergency situations and return to normal
- delegation of emergency authority
- assignment of emergency responsibilities
- authorisation by key personnel for actions mandated by the plan
- coordination of efforts to handle the emergency
- planned and coordinated action to manage and minimise the risks associated with an incident/accident.

To improve its effectiveness, and to ensure designated emergency response team members are prepared, the plan should periodically be tested by conducting regular exercises. Training in emergency response may take two forms, table-top exercises or full-scale exercises.

Table-top exercise

The table-top exercise is designed to provide training, to evaluate plans and procedures, and to resolve questions of coordination and emergency response team responsibilities in an informal, nonthreatening format.

Full-Scale exercise

The full-scale exercise is the most comprehensive test. It is intended to evaluate the operational capability of the emergency management system in a stress environment with actual mobilisation and deployment of resources and personnel. The decision to conduct a full-scale exercise should be coordinated with other local organisations and agencies where practicable.

At the conclusion of an exercise or actual emergency, a formal review should take place. It should measure the effectiveness of the plan with feedback from participants and by assessing the impact, this feedback has a flow on effects for evaluating and revising policies, plans and procedures.

Documents Submitted as Evidence

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No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
2.1	Does [Organization] have an emergency response/contingency plan appropriate to the size, nature and complexity of the organization?	5	Opportunities for improvement identified	
2.2	Does the emergency/contingency plan address all possible or likely emergency/crisis scenarios relating to the organization's aviation product or service deliveries?	5	Opportunities for improvement identified	
2.3	Does the ERP include procedures for the continuing safe production, delivery or support of its aviation products or services during such emergencies or contingencies?	5	Opportunities for improvement identified	
2.4	Is there a plan and record for drills or exercises with respect to the ERP?	5	Opportunities for improvement identified	
2.5	Does the ERP address the necessary coordination of its emergency response/contingency procedures with the emergency/response contingency procedures of other organizations where applicable?	5	Opportunities for improvement identified	
2.6	Does [Organization] have a process to distribute and communicate the ERP to all relevant personnel, including relevant external organizations?	4	Opportunities for improvement identified	
2.7	Is there a procedure for periodic review of the ERP to ensure its continuing relevance and effectiveness?	4	Opportunities for improvement identified. Add to terms of reference for safety committee.	
		7		
		35		
		33		
	Score	94%		
	Score	94%		

Total Material	0
Total High	0
Total Medium	0
Total Low	0
Section Total Material	**0**
Section Total High	**0**
Section Total Medium	**0**
Section Total Low	**0**

Section Score 94%

Requirements

3.1 Development of SMS documentation

A feature of SMS is that all safety management activities are documented and visible and the documentation provides the authoritative basis of the SMS. This can be in the form of a separate safety manual, or integrated within an existing exposition or quality manual. What is important is that all personnel know where to access the documentation and when it has been updated. Robust documentation shows how safety activities integrate with those of other functions and systems in the business, and how these activities link to the organisation's safety policy. SMS documentation should include, or make reference to, relevant and applicable rules and requirements. Depending upon the complexity of the organisation, a typical safety manual or integrated exposition would include—

- scope of the SMS
- safety policy
- the safety objectives of the organisation (they may be referenced separately)
- non-punitive reporting policy (Just Culture) and supporting processes
- safety accountabilities and responsibilities
- key safety personnel
- the structure of the safety management organisation
- a description of specific templates, such as reporting forms, risk registers and safety performance targets
- details of contracted activities (key service providers)
- procedures for—
  - documentation control
  - hazard identification
  - risk assessment
  - safety reporting
  - safety investigation
  - safety audit
  - safety performance monitoring and measurement
  - change management
  - management review
  - safety records management, including identification, access, handling, storage, retrieval and preservation
  - safety promotion, including training and communication of safety information; and
  - coordination of emergency response planning.

In common with current exposition amendments, an electronic format is preferred for SMS documentation submitted for review during the certification process and for any subsequent amendments. The preferred file format is PDF, but MS Word, and Open Office are also acceptable. The use of a consistent file naming convention, keeping file names short, and formatting dates using "yyyymmdd" assists with increased efficiency of document management and amendment processing:

- Identify your organisation – this may be the Client ID, or client name.
- Identify the manual – this may be identified with a rule part number, or an abbreviated form of the manual name e.g. MAINT for Maintenance Manual.
- Include information to identify the exposition revision status – this may be a revision number or date of revision (or both).
- Examples—
  - 12345MELRev6.3.pdf (Client 12345, Minimum Equipment List, Revision 6.3)
  - WOW_145_20141205.pdf (Wings of Wind, Maintenance Manual (Part 145), revised 05 Dec 2014)

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3.1 Development of SMS documentation

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
3.1.1	Is there a top-level SMS summary or exposition document which is approved by the accountable manager and accepted by the CAA?	1	No documentation	
3.1.2	Does the SMS documentation address the organization's SMS and its associated components and elements?	2	TAA SMS Draft version 2	
3.1.3	Is the TAA SMS framework in alignment with the regulatory SMS framework?	2	Minimal documentation	
3.1.4	Does TAA maintain a record of relevant supporting documentation pertinent to the implementation and operation of the SMS?	1	No documentation. Put in new SMS Manual	
3.1.5	Does TAA have an SMS implementation plan to establish its SMS implementation process, including specific tasks and their relevant implementation milestones?	1	No documentation	
3.1.6	Does the SMS implementation plan address the coordination between the service provider's SMS and the SMS of external organizations where applicable?	1	No documentation	
3.1.7	Is the SMS implementation plan endorsed by the accountable executive?	5	CEO	
		7		
		35		
		13		
	Score	37%		

Total Material	0	Total Material	0
Total High	0	Total High	0
Total Medium	0	Total Medium	0

	Total Low	0	Total Low 0

AC100 Safety Management (24 February 2016) — **Element 3—Development, Control and Maintenance of Sa**

Requirements

3.2 Control and maintenance of SMS documentation

Robust document control should ensure current versions of relevant documents are available at all locations where operations are performed, and obsolete documents are promptly removed from all points of use.

Each organisation should have a document control process to ensure that the SMS documentation is regularly reviewed and updated. Changes should be approved at the delegated level of authority, assessed for risk impacts, and be accepted by the regulator as part of the exposition as required by the Rules.

SMS documentation includes safety records that require processes for identification, access, handling, storage, retrieval and preservation. A safety record is any information that can be used to demonstrate that the SMS is operating and performing, and to identify and resolve safety issues through a system of risk management. Examples of relevant safety records include: hazard logs, safety reports and investigations, risk assessments and safety cases, audit reports, meeting minutes, training records etc. Documentation and maintenance of safety records should be balanced against the value of the data, and the business needs. In particular, special effort should be made to ensure proper recording and documentation of safety assurance processes (safety surveys, safety monitoring etc.).

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3.2 Control and maintenance of SMS documentation

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
3.2.1	Is SMS documentation, including SMS related records, regularly reviewed and updated with appropriate version control in place?	1	No version control. Put in JD for safety manager	
3.2.2	Are documented procedures in place to establish and manage third party interfaces?	1	No documentation	
3.2.3	Does the SMS documentation detail and reference the means for the storage of other SMS related records?	1	No documentation	
3.2.4	Is SMS documentation is readily available to all personnel?	2	No documentation. ERP sent to third parties.	
		4		
		20		
		5		
	Score	25%		

Total Material	0
Total High	0
Total Medium	0
Total Low	0

Section Score 31%

Section Total Material	**0**
Section Total High	**0**
Section Total Medium	**0**
Section Total Low	**0**

Requirements

4.1 Hazard identification in practice

It is important to employ realism and lateral thinking in hazard identification. The organisation should not only identify 'obvious' hazards that could affect the operation, but also the potentially complex events. Hazards can be the result of systems that are deficient in their design, technical function, human interface or interactions with other processes and systems. They may also result from a failure of existing processes or systems to adapt to changes in the organisation's operating environment. Hazard identification should where practicable, be based on a combination of reactive, proactive and predictive safety data collection. Some of the common hazard identification sources are—

· safety reporting – includes safety occurrence reporting through mandatory and voluntary reporting schemes
· internal investigation of safety occurrences
· the nature of the activities and processes associated with the activities
· safety occurrence trend analysis
· results from operational safety audits carried out internally and by CAA
· analysed data from automated data collecting tools (e.g. flight data analysis (FDA) in the airline industry)
· monitoring of "day-to-day" normal operations and environment
· official State investigation results of accidents and serious incidents
· information exchange practices between operators/service providers.

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Low	An issue which represents a minor risk, resolution of which will improve the organisation's control environment.

4.1 Hazard identification in practice

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
4.1.1	Is there a process for voluntary hazards/threats reporting by all employees? [5.3.42 to 5.3.52; 5.5.4]	5	IRIS	
4.1.2	Is the voluntary hazard/threats reporting simple, available to all personnel involved in safety-related duties and commensurate with the size of the service provider? [5.3.42 to 5.3.52]	5	IRIS	
4.1.3	Does TAA include procedures for incident/accident reporting by operational or production personnel?	5	IRIS	
4.1.4	Is incident/accident reporting simple, accessible to all personnel involved in safety-related duties and commensurate with the size of the service provider?	5	IRIS	
4.1.5	Does TAA have procedures for investigation of all reported incident/accidents?	5	IRIS	
		5		
		25		
		25		
	Score	100%		

Total Material	0	Total Material	0
Total High	0	Total High	0
Total Medium	0	Total Medium	0
Total Low	0	Total Low	0

AC100 Safety Management (24 February 2016) Element 4—Hazard Identification
Requirements

4.2 Selecting the hazard identification technique
The hazard identification technique(s) chosen should be appropriate to the organisation and the activities conducted. The hazard identification process should provide sufficient detail for the organisation to understand fully the nature of each hazard. In selecting a hazard identification process, organisations may wish to consider—
· the size of the organisation
· the nature and complexity of the activities undertaken.
Hazards are diverse, and there are a number of techniques, or combination of techniques that an organisation may choose to apply. Some of the more common hazard identification techniques are listed below—
· Brainstorming – typically an unbounded but facilitated discussion within a group initiated with a thread of discussion. Brainstorming can be effective at identifying obscure hazards of a type that may be overlooked by more systemic methods;
· Task Analysis – developed specifically to identify hazards associated with human factors, procedural errors and the 'man-machine interface'. By breaking a task down into individual elements, hazards associated with the task can be identified;
· Occurrence Data – having company and/or external incident data at hand can assist in validating the opinions/experiences of the team;
· Hazard and Operability (HAZOP) Study – is a systematic and structured approach using parameter and deviation guidewords. The technique relies on a very detailed system description being available for study and usually involves breaking down the system into well-defined subsystems and functional or process flows between subsystems.
· Structured What-if (SWIFT) – a technique originally developed as a simpler and more efficient alternative technique to HAZOP. Like HAZOP, SWIFT involves a facilitated multidisciplinary team of experts. It is a facilitated brainstorming group activity but is typically carried out on a higher level system description.
· Failure Modes and Effects Analysis (FMEA) – is a 'bottom-up' technique that is used to consider ways in which the basic components of a system can fail to perform their design intent.

Documents Submitted as Evidence

Last Revision Date	Document Title	Electronic/Hard Copy Location

Scoring

5 - Well Controlled	
4 - Opportunities for improvement identified	
3 - Some weaknesses of concern identified	
2 - Significant weaknesses found	
1 - Poorly controlled	

Rating

Material	A major control weakness or issue that exposes the organisation to a critical level of risk.
High	A control weakness or an issue that exposes the organisation to a major / serious level of risk.
Medium	A control weakness or an issue that exposes the organisation to a moderate level of risk.
Low	An issue which represents a minor risk, resolution of which will improve the organisation's control environment.

4.2 Selecting the hazard identification technique

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
4.2.1	Has TAA selected a hazard identification technique?	3	Quarterly inspection process	
		1		
		5		
		3		
	Score	60%		

Total Material	0
Total High	0
Total Medium	0
Total Low	0

AC100 Safety Management (24 February 2016) — Element 4—Hazard Identification

Requirements

4.3 Features of a successful hazard identification process
The following factors lead to successful hazard identification—
· the hazard identification process should be appropriate and relevant to the organisation i.e. provides an adequate depth of analysis
· appropriate members of the workforce are actively involved and regular and ongoing consultation occurs
· all methods, results, assumptions and data are fully documented
· the documented identification of hazards is regularly maintained (e.g. updates from alerts and occurrences) and used as a live document
· timely feedback and outcomes provided to the reporter and wider organisation where appropriate
· active and visible engagement from senior management encouraging personnel at all levels to proactively report hazards, errors and near misses
· the adoption of a non-punitive (or Just Culture) reporting policy by the organisation will ensure that personnel are confident in submitting hazard reports.

Documents Submitted as Evidence

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Scoring

5 - Well Controlled

Rating

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1 - Poorly controlled	

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Low	An issue which represents a minor risk, resolution of which will improve the organisation's control environment.

4.3 Features of a successful hazard identification process

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
4.3.1	Are there procedures to review hazards/threats from relevant industry reports for follow-up actions or risk evaluation where applicable?	4	Email, web	
4.3.2	Does the safety reporting system provide feedback to the reporter of any actions taken (or not taken) and, where appropriate, to other personnel within the organisation or relevant third parties?	4	IRIS	
4.3.3	Do personnel express confidence and trust in the organisation's reporting policy?	5	Not documented	
		3		
		15		
		13		
	Score	87%		

Total Material	0
Total High	0
Total Medium	0
Total Low	0

AC100 Safety Management (24 February 2016) **Element 4—Hazard Identification**

Requirements

4.4 Developing a hazard system identification process

A hazard identification process enables the 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 following are some steps for the capture of information identified as hazards, the structure of which will vary depending on the size and complexity of the organisation.

Communicate and consult

In order to achieve the safety objectives of the organisation, an appropriate level of involvement of the workforce is required. Often, members of the workforce are in the best position to understand and articulate the hazards involved in their daily tasks. Their involvement can facilitate effective and accurate identification of new or changed hazards and associated risks, and the identification and development of practical and effective control measures. Therefore, it is important to talk to your stakeholders, both within and outside the organisation and identify the following—

- Who are they?
- What do they want?
- What is the best way to involve them?

Communicating and consulting with the workforce will establish the ideal framework for personnel to submit hazard reports, and enable efficient processing within identified timeframes. Depending on the size and complexity of the organisation, consider the following—

- the hazard types likely to be reported, and the design of a suitable reporting medium around this
- how to make the reporting mechanism accessible, easy to use and as intuitive as possible
- how personnel can most efficiently access and submit reports, given the available technology for online reporting.

Identify safety hazards

The methodology chosen by the organisation to identify hazards to aviation safety should meet the objective as efficiently as possible given the available information and expertise. A simple brainstorming technique may satisfactorily identify the majority of hazards for many organisations. However, an organisation may need to apply a combination of different hazard identification techniques to ensure that the full range of factors is properly considered.

Analyse safety hazard reports

The analysis of safety reports is necessary to validate the contents of the reports, establish any trends, (good or bad) and assess the significance of the reported information i.e. the potential to cause or contribute to an aircraft incident or accident. This will assist the organisation in identifying safety risks and their potential consequences, and hence determine priorities for subsequent safety action. The assessment of the consequences of the risk and associated control strategies are part of the risk management process (refer to section 2.5 of this advisory circular). Therefore, effective analysis of safety reports becomes a key source of information for safety risk management.

Collation, storage and distribution of data

The outcomes from hazard identification form the basis of the subsequent steps of the risk management process, namely the risk assessment and control measures. The main requirements are that the hazard identification documentation—

- clearly shows linkages between hazards, hazardous events, underlying causes and control measures where appropriate
- contains a numbering system for hazards and controls to allow easy identification and tracking
- contains sufficient information to support the subsequent steps of risk management
- is easy to administer
- the records of hazard identification can directly accommodate the process of revisiting and updating the knowledge of hazards, details of hazards, incidents, control measures, lessons from incidents and accidents, etc.
- is managed under a document control system. Depending on the size and complexity of the organisation, an electronic system for the management of identified hazards may be easier to use for the maintenance of records.

Documents Submitted as Evidence

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Scoring

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4.4 Developing a hazard system identification process

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
4.4.1	Are there procedures to ensure that hazards/threats identified or uncovered during incident/accident investigation processes are appropriately accounted for and integrated into the organization's hazard collection and risk mitigation procedure?	5	IRIS	
4.4.2	Are human performance related hazards being identified?	4	IRIS	
		2		
		10		
		9		
	Score	90%		

Total Material	0
Total High	0

		Total Medium	0
		Total Low	0
	Section Score 84%	**Section Total Material**	**0**
		Section Total High	**0**
		Section Total Medium	**0**
		Section Total Low	**0**

AC100 Safety Management (24 February 2016) — Element 5—Risk Management

Requirements

5.1 Reactive, proactive and predictive risk management

Risk management can be conducted in a combination of reactive, proactive, and predictive manners. The objective is to ensure that ongoing operations remain safe and planned operations can be undertaken safely.

· Reactive risk management responds to events that have already happened, such as serious incidents or accidents. The objective is to avoid the recurrence of the same or similar events.

· Proactive risk management actively seeks to identify safety risks through the analysis of the organisation's environment, activities and processes. It uses predictive and monitoring techniques. It is especially applicable to new or changing parts of the organisation.

· Predictive risk management is the use of data to identify possible negative future outcomes or events using analytical tools and techniques.

One form of risk management should not preclude any other. Reactive risk management strategies should be favoured to obtain information on risk and errors in the initial phases of the organisation's SMS implementation plan, as well as monitoring and follow-up phases. As the reactive risk management gets more mature, the organisation should focus more on proactive risk management. Proactive strategies include a thorough hazard analysis of business processes. After identifying hazards, the organisation can manage the associated risks.

Documents Submitted as Evidence

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Scoring

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5.1 Reactive, proactive and predictive risk management

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
5.1.1	Does the organisation use reactive risk management?	2	Not well documented	
5.1.2	Does the organisation use proactive risk management?	2	Not well documented	
5.1.3	Does the organisation use predictive risk management?	2	Not well documented	
		3		
		15		
		6		
	Score	40%		

Total Material	0	Total Material	0
Total High	0	Total High	0
Total Medium	0	Total Medium	0
Total Low	0	Total Low	0

AC100 Safety Management (24 February 2016) — Element 5—Risk Management

Requirements

5.2 Risk assessment techniques

Organisations should select appropriate techniques for conducting risk assessment. They may include—

• risk matrix, fault and event trees, Bowtie, Quantitative Risk Assessment (QRA), SWOT analysis (strength, weaknesses, opportunities and threats).

Selection will depend on the level of information required to better understand the risk and to manage it. The main considerations when selecting risk assessment techniques are—

• they should be suitable for the size and complexity of the organisation and the nature of the hazards present

• they should assist in understanding and selecting control measures

• they should adequately differentiate between outcomes on a risk basis (i.e. likelihood and consequence)

• they should help in assessing the potential effect of risk reduction measures.

Depending on the different types of hazards and the potential outcomes of the associated risks, several techniques to develop a complete understanding of the hazards may be needed. No single assessment tool can meet all the requirements for risk assessment, as all tools have limitations and weaknesses.

Some of the questions that will need to be answered when planning for risk assessment are—

• What risk analysis method(s) (e.g. qualitative, semi-quantitative, quantitative, etc.) and risk criteria will be used? What risk assessment technique(s) will be used (e.g. risk matrix, bowtie, QRA, etc.)? What level of detail is required? What resources are available?

SMS ALARP aspect

Risk management is often based on the concept of ALARP or 'as low as reasonably practicable'. There is wide acceptance that not all risk can be eliminated. There are practical limits to how far the industry or community will go in paying to reduce risks. All efforts should be made to reduce risks to the lowest level possible until a point is reached when the cost of introducing further safety measures significantly outweighs the safety benefit.

Fundamental approaches to consider

There is no prescribed methodology for demonstrating that the necessary control measures have been identified to reduce risks to an acceptable level. However, there are several basic approaches which may be used to provide evidence and justification within the risk management process. Organisations may consider using one or more of the following approaches—

• risk criteria approach—

o define criteria that correspond to an acceptable level of risk

o assess performance quantitatively or qualitatively (e.g. using matrices) and compare against the criteria

• comparative assessment of risks, costs and benefits—

o evaluate risk and associated costs for a range of control measure options

• cost benefit analysis (CBA)—

o the numerical assessment of the costs of implementing a change and the likely reduction in harm that this would be expected to achieve

• comparison with codes and standards—

o compare design, the management system framework and operational procedures against recognised national, international or industry standards, codes of practice, guides etc.

• technical analysis—

o evaluate control measures against the hazards and risks, e.g. assess strengths and weaknesses, effectiveness, functionality, availability, reliability, technical feasibility, etc.

• performance data—

o evaluate safety-related performance data as evidence of adequacy or satisfactory levels of performance, e.g. effectiveness of a control measure

• improvement approach—

o demonstrate the extent of relative improvements in performance based on past, present and planned enhancements

• judgement approach—

o present considered judgements as to the suitability of control measures and the management systems, or the perceptions of a cross section of various stakeholders

• practical tests—

o demonstrate that the management system and/or control measures function effectively using event simulations, management system tests, etc.

Documents Submitted as Evidence

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5.2 Risk assessment techniques

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
5.2.1	Is there a documented hazard identification and risk mitigation (HIRM) procedure involving the use of objective risk analysis tools? [2.13; 2.14; 5.3.53 to 5.3.61]	1	Not documented	
5.2.2	Are the risk assessment reports approved by departmental managers or at a higher level where appropriate? [2.15.5; 5.3.53 to 5.3.61]	1	Not documented	
5.2.3	Is there a procedure for periodic review of existing risk mitigation records? [5.5.4]	2	Minimal documentation	
5.2.4	Is there a procedure to account for mitigation actions whenever unacceptable risk levels are identified? [5.5.4]	2	Minimal documentation	
5.2.5	Is there a procedure to prioritize identified hazards for risk mitigation actions? [5.5.4]	2	Minimal documentation	
5.2.6	Is there a programme for systematic and progressive review of all aviation safety-related operations, processes, facilities and equipment subject to the HIRM process as identified by the organization? [5.5.4]	1	Not documented	
		6		
		30		
		9		
	Score	30%		

Total Material 0
Total High 0
Total Medium 0
Total Low 0

AC100 Safety Management (24 February 2016) **Element 5—Risk Management**

Requirements

5.3 Risk management process

The Australian/New Zealand Standard on Risk Management AS/NZS ISO 31000:2009 provides a generic framework for establishing the context, identifying, analysing, evaluating, treating, monitoring and communicating risk. The risk management process outlined in AS/NZS ISO 31000:2009 can be tailored and applied to any organisation, and at any level of the organisation. The process can be embedded in the policies, processes and culture, thus providing a consistent and systematic approach to managing risk.

It is critical that the steps of 'communicate and consult' and 'monitor and review' are ongoing throughout the risk management process. These two activities provide validation that the risk management process is effective, is meeting its objectives, and is supported through ongoing interaction with key personnel. It is recommended that readers research each of the above steps to develop an understanding of the risk management process.
The following example shows how the risk management process steps could be used.
An organisation needs to assess the hazard of bird activity in a certain location, to ascertain bird strike risks.
· Setting the context would include identifying the physical location, environmental conditions, etc.
· The risks could then be identified in a meeting with aviation operators in that area, and by a review of safety reporting statistics and information collated by environmental agencies.
· Thirdly, the analysis and evaluation of the risks would take into account the likelihood and consequences of a bird strike. A decision must be made about the tolerability of the risk, whether to commence or continue operations and under what conditions.
· Lastly, treatment strategies for minimising the likelihood, the consequences, or both, could be developed, and implemented. The effectiveness of these decisions could then be tracked through regular subsequent meetings.

Documents Submitted as Evidence

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Scoring

5 - Well Controlled	
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2 - Significant weaknesses found	
1 - Poorly controlled	

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5.3 Risk management process

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
5.3.1	Is there a structured process for the management of risk that includes the assessment of risk associated with identified aviation safety hazards?	4	IRIS	
5.3.2	Are potential safety risks associated with third party contractors and suppliers assessed and mitigated?	1	Not documented	
5.3.3	Is there criteria for evaluating the level of risk the organisation is willing to accept and risk assessments and ratings are appropriately justified?	2	Minimal documentation	
5.3.4	Does the organisation have a risk control processes that delivers effective and robust mitigations /controls, and where applicable an action plan?	4	IRIS	
5.3.5	Do mitigating / control actions resulting from the risk assessment, include timelines and allocation of responsibilities, and is documented?	4	IRIS	
5.3.6	Is risk management embedded in day to day activities and routinely applied in decision making processes?	3	Minimal documentation	
5.3.7	Does senior management have visibility of medium and high risks and their mitigation and controls?	5	IRIS	
		7		
		35		
		23		
	Score	66%		

Total Material 0
Total High 0
Total Medium 0
Total Low 0

Section Score 45%

Section Total Material 0
Section Total High 0

Section Total Medium	**0**
Section Total Low	**0**

AC100 Safety Management (24 February 2016) — Element 6—Safety Investigation

Requirements

6.1 Internal safety investigations

For the purposes of this advisory circular, an internal safety investigation is one conducted by the organisation using internal processes to examine the contributing or causal factors behind hazard, incident and accident reports.

Civil Aviation Rule Part 12 defines the requirements for the conduct of safety accident and incident investigations, and advisory circular AC12-2 Incident Investigation details the CAA's expectation with respect to safety investigations.

Other legislative requirements e.g. those relating to health and safety requirements in the workplace, also require investigation of workplace incidents.

The guidance in this element relates to internal safety investigations that are conducted in response to an accident or incident (e.g. reactive), as well as those conducted in response to adverse trending of hazards and risks, or cases where more in-depth follow-up is required (e.g. proactive).

Documents Submitted as Evidence

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Scoring

5 - Well Controlled
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6.1 Internal safety investigations

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
6.1.1	Is there a structured process to ensure investigations are carried out to establish underlying contributing factors and potential hazards for existing and future operations?	4	IRIS	
		1		
		5		
		4		
		80%		

Total Material	0	Total Material	0
Total High	0	Total High	0
Total Medium	0	Total Medium	0
Total Low	0	Total Low	0

AC100 Safety Management (24 February 2016) — Element 6—Safety Investigation

Requirements

6.2 Responsibility for conducting safety investigations

Internal safety investigations should be conducted by personnel having competency based training in incident investigation and where practicable be independent of the operation. The duties and responsibilities for the management of internal safety investigations should be documented with consideration of—

· the scope of the investigation and what 'triggers' an investigation
· the composition of the investigation team, including specialist assistance if required
· that investigation outcomes are recorded for follow up and trend analysis
· there is a timeframe for completion.

The role of the investigator is to identify where corrective or preventive actions are necessary using appropriate causal analysis methodologies. It is for the organisation's management to decide what those actions should be and to implement them.

Documents Submitted as Evidence

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Scoring

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6.2 Responsibility for conducting safety investigations

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
6.2.1	Are personnel responsible for investigating safety reports competent in investigation techniques?	5	ICAO investigators course	
		1		
		5		
		5		
	Score	100%		

Total Material	0
Total High	0

Total Medium	0
Total Low	0

AC100 Safety Management (24 February 2016) — Element 6—Safety Investigation

Requirements

6.3 Defining the scope of an investigation

Ideally, all safety reports should be investigated. However, resources can be limited, so the effort expended should be proportional to the perceived benefit in terms of potential for identifying systemic hazards and risks to the organisation. Reports or themes that demonstrate a high risk should be investigated in greater depth than those with low risk.

The extent of the investigation will depend on the actual and potential consequences of the event or risk level associated with a hazard. This can be determined through an initial risk assessment of the actual outcome(s) or potential outcome(s).

Since the level of risk is the product of consequence and likelihood, trying to assign a risk level to an event that has occurred provides little value; the likelihood is irrelevant – it has happened and past events cannot be managed. However, when deciding whether to investigate an event and to what extent, consideration should be given to the other potential outcomes in the same contextual setting. By considering alternative, credible outcomes and considering the effectiveness of existing risk treatments or controls, it is possible to assign a risk level to this and similar events.

While the majority of investigations will focus on cause and effect, the application of a deeper systemic and thematic safety investigation will also complement SMS. Thematic and systemic investigations require a more holistic perspective of how a whole system is performing, to identify potential weaknesses or emerging risks within the system. Typically, the output from this type of safety investigation is information on emerging or potential risks, specifically, information on the characteristics, structure, weaknesses and strengths of the system. Ideally, a systemic and thematic safety investigation will identify the resilience of the system, allowing the level of safety within the system to be measured.

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6.3 Defining the scope of an investigation

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
6.3.1	Are safety reports acted on in a timely manner?	4	Safety committee once a month	
		1		
		5		
		4		
	Score	80%		

Total Material	0
Total High	0
Total Medium	0
Total Low	0

AC100 Safety Management (24 February 2016) — Element 6—Safety Investigation

Requirements

6.4 Steps of an effective safety investigation

Commencing a safety investigation

The following steps should be considered when launching an internal safety investigation—

- a safety investigator should be appointed
- involved personnel and companies should be notified
- a repository of all information relating to the investigation should be established (e.g. a file in the safety reporting dataset)
- the repository for investigation information should be secure and confidential to ensure the integrity of the data.

Gathering evidence

The first step in the investigation process is to gather all factual information about the occurrence. Factual information can come from a number of different sources, depending on the nature of the occurrence. Some of the most common sources in the context of aviation-related occurrences include the following—

- interviews with involved personnel, crew and witnesses
- recordings
- records and documentation, e.g. maintenance logs, manuals, notices and other correspondence.

Interpreting the facts

Once the evidence is gathered, all the information should be analysed to identify 'what' happened and, more importantly, 'why' it happened. It is often easy to identify 'what' happened; the factual information should reveal this. The 'why' it happened can be challenging, but this is where the real lessons and safety benefits are. Investigators should keep asking the question 'why' until they get to the real cause(s). Advisory circular AC12-2 provides guidance in this area. It is often worthwhile to use pre-established and proven analytical methodologies to help identify and organise the causal links of an occurrence. This will help to avoid bias, misidentification, or misinterpretation.

Developing recommendations

If faced with a group of similar occurrences or similar causes, it may be appropriate to group the information into emerging themes. The reasons for these trends should be identified from a holistic point of view. Identifying appropriate findings and recommendations is the key focus of any investigation, and it is vital to remain focused on organisational learning, rather than pinpointing individual failings or corrective measures. When making recommendations consider phraseology that emphasises the safety-related improvements attainable by implementation.

Distributing and presenting the safety investigation report

It is important to consider how the distribution of safety investigation reports is controlled. The final report needs to be presented to all personnel and organisations involved, particularly those who have findings/recommendations assigned to them. It is important to remember that distributing a report with commercially sensitive information may not always be possible. Therefore, summaries of reports may be a more appropriate means of communicating outcomes.

Monitoring safety investigation outcomes

Once the report has been presented, the actions resulting from the findings and recommendations need to be monitored and recorded as a function of 'closing the loop'.

Documents Submitted as Evidence

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Scoring	Rating	
5 - Well Controlled	Material	A major control weakness or issue that exposes the organisation to a critical level of risk.
4 - Opportunities for improvement identified	High	A control weakness or an issue that exposes the organisation to a major / serious level of risk.
3 - Some weaknesses of concern identified	Medium	A control weakness or an issue that exposes the organisation to a moderate level of risk.
2 - Significant weaknesses found	Low	An issue which represents a minor risk, resolution of which will improve the organisation's control environment.
1 - Poorly controlled		

6.4 Steps of an effective safety investigation

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
6.4.1	Do investigations establish causal/contributing factors (why it happened, not just what happened)?	4	IRIS	
6.4.2	Are the actions resulting from investigation recommendations recorded and monitored?	5	IRIS	
6.4.3	Are the outcomes of safety investigations fed back into the organisation's SMS?	4	IRIS	
6.4.4	Does the organisation apply systemic and thematic methodology when investigating incidents or accidents?	4	IRIS	
		4		
		20		
		17		
	Score	85%		

Total Material	0
Total High	0
Total Medium	0
Total Low	0

AC100 Safety Management (24 February 2016) — Element 6—Safety Investigation

Requirements

6.5 Selecting and training safety investigators

A competent safety investigator is vital to the outcome of an organisation's safety investigation. The organisation should identify training needs in relation to performing investigation activities relevant to the complexity and activities of the organisation. The following are the typical knowledge, experience and skill requirements of a safety investigator—

· trained in safety investigation and have suitable subject matter expertise
· technically competent and have experience in interpreting occurrence information to determine causal factors
· well-developed research and listening skills to gather all necessary evidence and interpret it appropriately
· proficient in written and verbal communication skills
· integrity
· be able to act independently
· present reports which are a clear representation of the facts and causes.

This role is not necessarily required on a full time basis, (either amongst existing personnel/crew or externally)

Documents Submitted as Evidence

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Scoring	Rating	
5 - Well Controlled	Material	A major control weakness or issue that exposes the organisation to a critical level of risk.
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3 - Some weaknesses of concern identified	Medium	A control weakness or an issue that exposes the organisation to a moderate level of risk.
2 - Significant weaknesses found	Low	An issue which represents a minor risk, resolution of which will improve the organisation's control environment.
1 - Poorly controlled		

6.5 Selecting and training safety investigators

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
6.5.1	Is the safety investigator trained and competent?	5	Not documented	
6.5.2	Is criteria for the safety investigator's skills and knowledge established and documented?	5	Course syllabus	
		2		
		10		
		10		
	Score	100%		

Total Material	0
Total High	0
Total Medium	0
Total Low	0

Section Score	89%	**Section Total Material** **0**
		Section Total High **0**
		Section Total Medium **0**

Section Total Low	**0**

Requirements

7.1 Safety goals

Safety goals are high level statements that provide overall context for what the SMS is trying to achieve. Because a goal is set at a high level, it is likely that more than one objective needs to be set; it is most common to have several safety-related objectives. Examples of safety-related goals are: 'improving the engagement of staff with the SMS' and 'ensuring that continual improvement in safety practices is maintained'. Safety goals cannot often be measured on their own, but rather by the achievement of specific objectives.

Documents Submitted as Evidence

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Scoring

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7.1 Safety goals

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
7.1.1	Have safety goals and objectives been established and communicated throughout the organisation?	1	Not documented	
		1		
		5		
		1		
	Score	20%		

Total Material	0	Total Material	0
Total High	0	Total High	0
Total Medium	0	Total Medium	0
Total Low	0	Total Low	0

AC100 Safety Management (24 February 2016) Element 7—Monitoring and Measuring Safety Performanc

Requirements

7.2 Safety objectives

Safety objectives describe the specific, tangible products and deliverables against each goal. The safety objectives are qualitative or quantitative statements that define the aspirations and strategic goals of an organisation as they relate to the safety of its operational activities or the services it provides. A well worded objective will be specific, measurable, attainable/achievable, realistic and time-bound (SMART).

An organisation should clearly set out its vision for safety, defining desired outcomes and possibly describing the key elements or milestones to achieve its safety objectives. This should be closely linked to the organisation's safety policy.

Annex 19 Safety Management Systems requires the State to establish an acceptable level of safety performance (ALoSP) for its civil aviation system; this in turn must be supported by all aviation organisations within that system. The New Zealand Aviation State Safety Programme defines safety objectives for various sectors within the system (air transport, general aviation, etc.) and minimum acceptable safety performance targets to be achieved by those sectors. The State Safety Programme will continue to mature (similar to SMS) and will be amended to reflect changes in safety performance.

The CAA's SMS acceptance process will consider such factors as the complexity of the operation, the operational context and environment, and the operational risks when assessing an organisation's safety targets.

A performance-based approach assesses the actual safety performance against the organisation's safety controls, including those undertaken by third parties on behalf of the organisation. It provides a mechanism for assuring the effectiveness of the SMS in supporting safety objectives and continuous improvement.

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7.2 Safety objectives

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
7.2.1	Is the setting of alert levels or out-of-control criteria based on objective safety metrics principles?	1	Not documented	

	1		
	5		
	1		
Score	20%		

Total Material	0
Total High	0
Total Medium	0
Total Low	0

Requirements

7.3 Safety performance targets

Safety performance targets define what the organisation wants to achieve.
A safety performance target may be expressed as one or more desired outcomes. Each desired outcome may be expressed in terms of one or more safety performance indicators. When appropriate, separate targets can be established for third party service providers.
Safety performance targets should be set to measure the achievement of the ALoSP for the organisation. A safety performance target can be expressed in absolute or relative terms. A target does not have to be a single value; a range of values may be appropriate.
· An example of an absolute target might be less than one serious incident per 10 thousand flight hours.
· A relative target might be a 10% reduction in serious incidents over the next year.
Setting a number of safety performance targets will allow better measurement of the overall safety performance. Having specific safety targets for a range of the organisation's activities will also promote continuous improvement of those activities.
Safety performance targets should be periodically reviewed and, if necessary, updated as part of the organisation's management review.
An organisation should consider the following factors when setting its safety performance targets—
· the targets should support those set in the State Safety Programme
· the targets should support the safety objectives and ALoSP
· the selection and prioritisation of targets should be based on safety risk
· target setting should take account of new or anticipated developments, both internal and external, that may affect the organisation, in order to measure the organisation's response to those changes
· the targets should be realistic and take previous performance into account
· target setting should include benchmarking against well-performing organisations
· the target achievement period or date should take safety risk into account. The higher the risk, the more frequently the risk should be monitored.
Organisations should ensure that all risks are below the unacceptable level and strive to drive risk to 'As Low as Reasonably Practicable' (ALARP).

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7.3 Safety performance targets

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
7.3.1	Do the safety performance indicators include quantitative monitoring of high-consequence safety outcomes (e.g. accident and serious incident rates) as well as lower-consequence events (e.g. rate of non-compliance, deviations)?	1	Not documented	
7.3.2	Have safety performance targets and indicators been defined, communicated and being monitored and analysed for trends?	1	Not documented	
		2		
		10		
		2		
	Score	20%		

Total Material	0
Total High	0
Total Medium	0
Total Low	0

AC100 Safety Management (24 February 2016) **Element 7—Monitoring and Measuring Safety Performanc**
Requirements

7.4 Safety performance indicators

Safety performance indicators are used to express the actual level of safety performance achieved by the organisation or by a specific area within it. Safety performance indicators will vary depending on the type of organisation, though some indicators, such as safety occurrences, are common to all aviation organisations.

Safety performance indicators fall into three broad categories—

(1) Reactive or lagging indicators are measures of results of past activities. They include—

o Outcome indicators, which measure the results of the organisation's activities, such as the number of incidents or accidents over a period and relate directly to the safety objectives.

There is often a time lag associated with outcome indicators, and they may hide safety risks (an organisation is not necessarily 'safe' just because it has had no accidents)

o Output indicators, which measure activities that are designed to positively affect outcome targets, such as the number of safety audits conducted or the percentage of personnel who have completed risk management training.

(2) Proactive or leading indicators use forward-looking activities or predictive information. These indicators are useful to assess the robustness of organisational systems and result from—

o Risk management indicators, which measure activities related to the management of change and risk, such as the number of risk assessments completed, risk treatment plan acceptance rates, or changes in risk scores.

o Hazard identification indicators, which measure the quality, quantity and spread of hazard reporting. Additional indicators could relate to the proportion of hazard reports which lead to action by the organisation.

o Trend indicators, which measure the changes in various areas that can suggest future performance. Information can come from a variety of sources, including specific occurrence types, FOQA/LOSA information, customer feedback, etc.

(3) Interactive indicators relate to the safety culture of the organisation. They are designed to show the extent to which safety and performance-related issues are both noticed and acted upon prior to undesired events taking place. They could include—

o Safety climate survey results, which can be used to measure personnel attitudes and behaviours, and the correlation between expected performance and real outcomes (how the system is working in practice). They may include qualitative and quantitative metrics.

o Human factors indicators, which reflect human performance, using measures such as competency assessment pass rates, maintenance error rates, and percentage of investigated occurrences with human factors as primary cause.

o Communication and participation indicators, which measure the level of personnel engagement and internal and external reporting, and should include reporting of deviations that fall short of actual incident and accident reporting requirements.

An organisation should select enough reactive, proactive and interactive indicators to provide a measure of the overall performance of the organisation, but not so many that it becomes difficult to focus on important safety issues. The selection of safety indicators should address areas relevant to the safety objectives and the precursor forces that lead to failures of concern. When selecting safety performance indicators, organisations should consider whether they are—

• Relevant: are they closely linked with the organisation's safety performance targets?
• Clearly defined: are they easy to understand; are the applicable activities or organisational areas defined?
• Measurable: can they be measured objectively; is the collection of valid data feasible?
• Action-focused: do they allow important issues to be isolated, and for actions to be taken (rather than just monitoring data for the sake of it)?

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7.4 Safety performance indicators

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
7.4.1	Are there identified safety performance indicators for measuring and monitoring the safety performance of the organization's aviation activities?	1	Not documented	
7.4.2	Are the safety performance indicators relevant to the organization's safety policy as well as management's high-level safety objectives/goals?	1	Not documented	
7.4.3	Do the safety performance indicators include alert/target settings to define unacceptable performance regions and planned improvement goals?	1	Not documented	
7.4.4	Are safety performance indicators and their associated performance settings developed in consultation with, and subject to, the civil aviation authority's agreement?	1	Not documented	
		4		
		20		
		4		
	Score	20%		

Total Material	0
Total High	0
Total Medium	0
Total Low	0

AC100 Safety Management (24 February 2016) Element 7—Monitoring and Measuring Safety Performanc
Requirements

7.5 Supporting systems and processes

An effective safety performance system must be supported by the organisation's systems and processes.

Safety performance monitoring

Data should be collected to support safety performance indicators and may come from a number of sources for any given indicator. Information sources for safety performance monitoring and measurement include—

- safety occurrence reporting
- hazard reporting
- confidential reporting system
- internal safety investigations
- safety studies
- safety reviews, including trend analysis
- internal audits
- external audits
- risk assessments
- personnel surveys (safety and culture)
- personnel improvement suggestions
- interviews and meetings
- customer/ stakeholder feedback
- competency assessment results

Safety performance measurement

The prerequisites for good safety performance measurement are—

- Agreement on goals, objectives and strategies: There is agreement between management, personnel and key stakeholders on safety performance goals, objectives and on the resources, activities and processes required to achieve them.
- System is of sufficient technical quality: Data collection methods and systems are robust and provide sufficiently complete, accurate and documented data to support measurement and decision making. The organisation's assurance processes evaluate the validity and reliability of the data, as well as the overall quality of the process to deliver its objectives.
- Performance information is clear, understandable, and meaningful: Performance information is clearly documented and presented.
- Performance information is used to manage the organisation: Performance information is actively used for decision making and continuous improvement, including initiatives to improve performance, redesigning management systems, allocation of resources and redirecting the organisation's activities.
- Accountability and reporting: The responsibility for actions to improve performance is clear, and safety performance reports are disseminated to key internal and external stakeholders. Actual safety performance is determined by comparing safety performance indicators against safety performance targets. Any gaps must be assessed to determine the root cause for not achieving a target, and to identify opportunities for improvement. Appropriate safety risk controls can then be applied, and the ongoing safety monitoring and measurement will determine their effectiveness.

Safety assurance

Safety assurance provides management with an overview of the performance of the SMS, which in turn is an indicator of the organisation's ability to manage safety. Safety assurance can also provide stakeholders, such as the CAA, with an indication of the safety performance of the system. Assurance can simply be defined as 'something that gives confidence'. The safety risk management process starts with the organisation understanding its operational processes and environments and progresses through hazard identification, risk assessment and control to culminate in the implementation of safety risk controls. The aim of safety assurance is to provide the confidence that the safety system, in its parts and as a whole, is working effectively. Safety assurance processes and activities include ongoing examination, analysis and assessment of the controls throughout the daily operation of the system. The safety assurance and quality assurance processes are very similar as both require analysis, documentation, auditing, and a formal review of the system.

Documents Submitted as Evidence

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Scoring

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7.5 Supporting systems and processes

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
7.5.1	Is there a procedure for corrective or follow-up action to be taken when targets are not achieved and alert levels are exceeded/ breached?	1	Not documented	
7.5.2	Are the safety performance indicators periodically reviewed? [5.4.5; Appendix 6]	1	Not documented	
		2		
		10		
		2		
	Score	20%		

Total Material	0
Total High	0
Total Medium	0
Total Low	0
Section Total Material	**0**
Section Total High	**0**
Section Total Medium	**0**
Section Total Low	**0**

Section Score 20%

Requirements

8.1 General considerations

The organisation's management of change process should take into account the following four considerations—

Criticality of systems and activities

Criticality relates to the potential consequences on safe system operations of systems being improperly operated or an activity being incorrectly executed. Critical systems and activities should be reviewed following change to make sure that risk controls are still effective.

Stability of systems and operational environments

Changes may be the result of programmed activities such as growth, operations to new destinations, changes in fleets, changes in contracted services, or other changes directly under the control of the organisation. Changes in the operational environment are also important, such as economic or financial conditions, changing regulatory requirements, or changes in the physical environment such as cyclical changes in weather patterns.

Past performance

Past performance of critical systems may be an indicator of future performance. Trend analysis in the safety assurance process (see Element 7) should be used to track safety performance measures over time and factored into the planning of future activities under situations of change. While past performance should provide lessons, it should not constrain organisations' efforts to evolve and improve their safety performance.

Change leadership management

Change leadership is about the phases of change and its impact and emotions associated with each of the phases. It requires leaders and the organisation as a whole to address the mind-sets and to develop the practices and behaviours that support people to adapt to change. Leadership of successful change requires vision, strategy, and the development of a culture of sustainable-shared values to support the vision. It includes empowering, motivating and inspiring those who are involved and affected. It reflects that underlying dimension of leadership, the cognitive, the spiritual, the emotional and the behavioural. Change management is the process by which it is applied to realise the benefits and desired outcomes of change. It is about supporting and equipping the individual transitions that are needed to make it happen. It can be taught and learned. Of particular attention will be the behaviours of personnel and practices within the organisation. While SMS is about an approach, it requires an environment of raising issues without fear of reprisal or punitive and/or disciplinary action. The environment needs to be one where people raise issues and analyse incidents to review decisions and action to achieve better safer outcomes. This will not happen in a culture where fault and blame are the resulting actions.

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8.1 General considerations

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
8.1.1	Is there a procedure for review of relevant existing aviation safety-related facilities and equipment (including HIRM records) whenever there are pertinent changes to those facilities or equipment?	2	Safety Committee Terms of Reference	
8.1.2	Is there a procedure for review of relevant existing aviation safety-related operations and processes (including any HIRM records) whenever there are pertinent changes to those operations or processes?	2	Safety Committee Terms of Reference	
8.1.3	Is there a procedure for review of new aviation safety-related operations and processes for hazards/risks before they are commissioned?	3	Safety Committee Terms of Reference	
8.1.4	Is there a procedure for review of relevant existing facilities, equipment, operations or processes (including HIRM records) whenever there are pertinent changes external to the organization such as regulatory/industry standards, best practices or technology?	2	Minimal documentation	
		4		
		20		
		9		
	Score	45%		

Total Material	0	Total Material	0
Total High	0	Total High	0
Total Medium	0	Total Medium	0
Total Low	0	Total Low	0
Section Score	**45%**	**Section Total Material**	**0**
		Section Total High	**0**
		Section Total Medium	**0**
		Section Total Low	**0**

Requirements

9.1 Continuous Improvement

The management of safety is not a 'do once and forget' activity. It requires constant attention to, and improvement of, the SMS to achieve a mature system and resilient organisation. Continuous improvement of the SMS requires a process approach: identifying inputs relevant to the effectiveness of the SMS, analysing and determining the implications of these inputs, and subsequently generating outputs that improve the effectiveness of the SMS and its effect on safety. In other words, once the organisation has assessed its safety performance (Element 7) it needs to act on that information to improve the SMS. Inputs relevant to the effectiveness of the SMS include—

- safety performance indicators
- internal audit reports
- external audit reports
- management review of the SMS.

Continuous improvement approaches used in a QMS are just as relevant for the improvement of an SMS. For example, the 'Plan, Do, Check, Act' (PDCA) model is widely used in quality management to achieve greater process effectiveness. Elements 7, 10 and 11 of the SMS framework are fundamental to safety assurance and consequently to the continuous improvement of the SMS. Internal audits of the SMS are used to give assurance that the structure of the system is sound and to provide a formal process for identifying substandard performance and for measuring and maintaining the effectiveness of the SMS. The analysis of these inputs and the examination of the continuing suitability, adequacy and effectiveness of the SMS form the core of the management review process. This is addressed in more detail in section 2.11. The analysis and review could result in changes to organisation design, technology, personnel, training, policies, processes and procedures, and in adjustments to the SMS itself. These actions may require the senior person(s) to make resources available, and will require clear allocation of responsibility for their implementation. Combining the processes of management review, performance monitoring and internal audits closes the quality loop; this will allow the organisation to monitor and review its SMS and to take action to continually improve it.

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9.1 Continuous Improvement

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
9.1.1	Is there a procedure for periodic internal audit/assessment of the SMS?	2	Minimal documentation	
9.1.2	Is there a current internal SMS audit/assessment plan? [5.3.78 to 5.3.82; 5.5.4; 5.5.5]	2	Minimal documentation	
9.1.3	Does the SMS audit plan include the sampling of completed/existing safety risk assessments? [5.5.5]	2	Minimal documentation	
9.1.4	Does the SMS audit plan include the sampling of safety performance indicators for data currency and their target/alert settings performance? [5.4.5; 5.5.5]	2	Minimal documentation	
9.1.5	Does the SMS audit plan cover the SMS interface with subcontractors or customers where applicable? [5.4.1; 5.5.5]	2	Minimal documentation	
9.1.6	Is there a process for SMS audit/assessment reports to be submitted or highlighted for the accountable manager's attention where appropriate? [5.3.80; 5.5.5]	2	Minimal documentation	
		6		
		30		
		12		
	Score	40%		

Total Material	0	Total Material	0
Total High	0	Total High	0
Total Medium	0	Total Medium	0
Total Low	0	Total Low	0
Section Score	**40%**	**Section Total Material**	**0**
		Section Total High	**0**
		Section Total Medium	**0**
		Section Total Low	**0**

Requirements

10.1 Developing a safety audit programme

The following guidelines are intended to assist organisations in developing an audit capability.

Establishing an audit schedule

A schedule of audits covering one or two years will help the organisation plan its audit activities and resources. The schedule should show the planned date of each audit, a brief scope description and the names of the auditors. Consideration should be given to how, and by whom, this schedule will be maintained, and how relevant personnel can access it.

Setting the scope of the audit programme

The audit scope describes the breadth of operational disciplines or areas to be covered and depends on the focus area for the audit. The nature and scope of audits need to be driven primarily by the safety significance of an operational area.

Setting audit objectives

Audit objectives define tangible achievements expected from each audit. It is advisable to set out the detailed objectives well in advance of the audit to help the auditors to plan and conduct the audit.

For example, for an audit of Flight Dispatch, one audit objective might be to 'determine how dispatch errors are identified, managed and reported to ascertain the effectiveness of safety processes.'

Determining the frequency of audits

Determining the frequency of audits should take into consideration—

· the level of risk posed by the part of the operation or organisation to be audited

· any compliance-related considerations (e.g. will external audits be conducted?)

· the resources available to conduct audits (don't overwhelm what may be limited resources).

For example, an audit on one operational area may only be necessary once every two years, but an area which has known or suspected issues may need auditing once every six months. Audit schedules should be changed to match changing risk levels: if an area is perceived to have increasing risk levels, more frequent or additional audits should be scheduled – and the reasons recorded.

Outlining audit methodology

It is important to outline the policies, processes and methodologies required to conduct internal safety audits. The person managing the audit programme should select and determine the methods for collectively conducting an audit, depending on the defined audit objectives, scope and criteria.

Documentation of processes

All audit processes need to be clearly documented so that they are easy to understand and, most importantly, allow audits to be conducted in a standardised manner.

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10.1 Developing a safety audit programme

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
10.1.1	Is there a defined internal audit programme or plan that covers all of the organisation's operations over a specified period and extends to any third party service provider?	3	Some documentation	
10.1.2	Are internal audits being conducted to assess compliance, conformance and system effectiveness?	2	Minimal documentation	
		2		
		10		
		5		
	Score	50%		

Total Material	0	Total Material	0
Total High	0	Total High	0
Total Medium	0	Total Medium	0
Total Low	0	Total Low	0

AC100 Safety Management (24 February 2016) Element 10—Internal Audit Programme

Requirements

10.2 Conducting safety audits and monitoring outcomes
An audit should include the following steps—
Planning the audit
Careful planning helps the auditor to prepare tools appropriate to the audit objective and scope. One tool is the audit checklist, which should be used to identify the functions to be audited and to ensure that nothing is missed; it might include specific questions to allow the auditor to ascertain the effectiveness of the quality and safety processes. Checklists should never be used merely to show compliance by ticking boxes.
Conducting the audit
To conduct effective audits—
· Focus on how – and if – the documented procedures are practised, and whether the current practices and procedures are conducive to effective and safe operations.
· Use open-ended questions, asked in a neutral manner, and maintain a high level of engagement with personnel in the audited department.
· Provide an initial summary of findings or observations to the auditees at the conclusion of the audit.
Writing the audit report
It is essential that the content of the audit report is accurate, and that findings are supported by robust evidence that can be understood by the reader.
Disseminating and tracking audit findings
The audit report should be formally presented to the auditees so that they can address any findings. Actions to address the findings need to be tracked in a transparent and systematic manner (e.g. agenda item at a monthly safety committee meeting).

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10.2 Conducting safety audits and monitoring outcomes

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
10.2.1	Are analytical methods used to identify the root causes of non-conformances or deviations to ensure actions are effective?	1	Not documented	
10.2.2	Is there is a process for monitoring corrective and preventative actions resulting from audits to ensure required actions are appropriate, implemented in a timely manner and effective?	1	Not documented	
10.2.3	Is the operation of the internal audit programme itself subjected to independent audit under the quality assurance programme?	1	Not documented	
		3		
		15		
		3		
	Score	20%		

Total Material	0
Total High	0
Total Medium	0
Total Low	0

Requirements

10.3 Selecting and training auditors
Auditors should receive formal training to develop competence in auditing skills and techniques, and should be encouraged, or even required, to gain formal auditor qualifications. An effective auditor would also be expected—
· to act in a strictly trustworthy and unbiased manner
· to disclose any potential conflicts of interest
· not to accept any gifts, etc.
· not to disclose the findings or any other information gained in the course of the audit to any third party unless authorised to do so.
Operational independence ensures auditors are not put in a position where their objectivity may be affected by conflicting responsibilities or loyalties. Small organisations might consider employing a third party to conduct audits; the third party could be a similar organisation.

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Low	An issue which represents a minor risk, resolution of which will improve the organisation's control environment.

10.3 Selecting and training auditors				
No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
10.3.1	Are audits performed by persons competent in auditing skills and techniques?	4	Audit report	
10.3.2	Do auditing personnel have operational independence of the area being audited?	4	external party	
		2		
		10		
		8		
	Score	80%		

		Total Material	0
		Total High	0
		Total Medium	0
		Total Low	0
	Section Score 50%	**Section Total Material**	**0**
		Section Total High	**0**
		Section Total Medium	**0**
		Section Total Low	**0**

AC100 Safety Management (24 February 2016) — Element 11—Management Review

Requirements

11.1 Achieving safety oversight

Safety oversight is the means by which an organisation has visibility of its safety risks and the processes it uses to continually monitor and review its strategic and operational functions. While safety oversight is often associated with the regulator or organisations such as ICAO, each organisation is responsible for maintaining oversight of its own operations.

The management review process is a key tool in maintaining oversight. By reviewing the performance of the SMS, it provides the means to determine where improvements can be made and how their implementation will be managed. This can be achieved by reactively monitoring and reviewing operational activity, while proactive monitoring processes will increase the organisation's ability to make forward-looking safety decisions. A good management review leading to sound decisions will require that decision makers understand data collection sources, risk context and analysis methods.

It is important to consider a broad approach and a variety of actions to address any issues resulting from the review process; for example, procedures may need to be reviewed and changed, targeted educational campaigns may need to be implemented, etc.

Documents Submitted as Evidence

Last Revision Date	Document Title	Electronic/Hard Copy Location

Scoring

5 - Well Controlled	
4 - Opportunities for improvement identified	
3 - Some weaknesses of concern identified	
2 - Significant weaknesses found	
1 - Poorly controlled	

Rating

Material	A major control weakness or issue that exposes the organisation to a critical level of risk.
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Low	An issue which represents a minor risk, resolution of which will improve the organisation's control environment.

11.1 Achieving safety oversight

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
11.1.1	Is there a documented and demonstrated method of conducting regular reviews by senior management of the effectiveness of the SMS?	2	Minimal documentation	
		1		
		5		
		2		
	Score	40%		

Total Material	0	Total Material	0
Total High	0	Total High	0
Total Medium	0	Total Medium	0
Total Low	0	Total Low	0

AC100 Safety Management (24 February 2016) — Element 11—Management Review

Requirements

11.2 The management review process

The input to the management review should consider, among other things, information on–

· results and trends from audits and safety investigations
· status of preventative and corrective actions
· changes that could affect the safety management system
· continuous improvement
· an examination of safety performance indicators and target results
· action points from previous meeting
· appropriateness of existing safety policy and objectives
· planned SMS-related training and resources versus training achieved and resources fielded.

These inputs may then be used to measure the effectiveness of the SMS, and the review team can then decide on any changes that need to be made to improve the SMS, whether it is the processes and procedures, the allocation of resources, or even the basic policies and objectives.

The output of the management review should include clear and documented decisions and actions related to—

· improvement of the effectiveness of the safety management system and its processes
· improvement of product or service related to client requirements
· resource needs.

Accountability for implementing each action should be assigned to an individual with the appropriate responsibility, and the appropriate resources allocated.

Documents Submitted as Evidence

Last Revision Date	Document Title	Electronic/Hard Copy Location

Scoring

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Low	An issue which represents a minor risk, resolution of which will improve the organisation's control environment.

11.2 The management review process

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
11.2.1	Is there a documented process specifying the frequency of management reviews using a structured agenda?	3	Management action plan	
11.2.2	Is there is a process whereby the results of the review are evaluated and recorded, and conclusions implemented?	2	Minimal documentation	
11.2.3	Have changes in risk exposure, stakeholders, business environment and performance been taken into account?	1	No documentation	
		3		
		15		
		6		
	Score	40%		

Total Material	0
Total High	0
Total Medium	0
Total Low	0

AC100 Safety Management (24 February 2016) — Element 11—Management Review

Requirements

11.3 Frequency of management reviews

Management reviews should be conducted as often as necessary to ensure the effectiveness of the system is truly tested. This should reflect the size and complexity of the organisation, coupled with the amount of information to be reviewed. The frequency and nature of reviews should also take into consideration the different levels of monitoring that takes place, such as the activities of safety groups or committees. The review should not occur so often that it gets mired down in minutiae that would obscure shortcomings in the larger SMS. On the other hand, it should take place often enough to avoid situations where decisions are made too late to address threats to the SMS. An ad hoc review could also be conducted after a particular large or unusual event, or ahead of changes.

The organisation should consider the following when setting the frequency of its management reviews—

· anticipated changes or threats to the operations and SMS. New systems require more attention and resource allocation to follow up and close action items

· establishing a list of significant safety items that would trigger a management review between planned sessions.

Documents Submitted as Evidence

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Scoring

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Low	An issue which represents a minor risk, resolution of which will improve the organisation's control environment.

11.3 Frequency of management reviews

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
11.3.1	Is the frequency of management review documented and endorsed by stakeholders?	2	Minimal documentation	
		1		
		5		
		2		
	Score	40%		

Total Material	0
Total High	0
Total Medium	0
Total Low	0

Section Score 40%

Section Total Material	**0**
Section Total High	**0**
Section Total Medium	**0**
Section Total Low	**0**

Requirements

12.1 Developing the content of the safety training programme

It is the responsibility of the chief executive to ensure sufficient resources are allocated, and the safety manager to ensure the programme develops the required individual personnel competencies, so the SMS is understood and effectively applied across the different levels of the organisation, while building a strong safety culture. Appropriate external training organisations may be used, if required, to provide the necessary training to meet certain personnel responsibilities. It is the responsibility of the organisation to ensure that any external training is appropriate to the training needs and competency requirements of their SMS.

Conducting a training needs analysis

A training needs analysis (TNA) should be undertaken to identify the appropriate training programme for all personnel, the scope of the training programme should be appropriate to each individual's role and involvement in the organisation's SMS. A training needs analysis can be accomplished by—

• Analysing the job—

o start by looking at the specific documentation that describes the job, such as the position description. Identify phrases that specify important skills, processes or areas of knowledge required.

• Determine the skills/ knowledge gaps—

o develop a list of areas where training would be required to improve the effectiveness of the job in question

o decide whether there is a gap in the skills or knowledge, or if some revision is required to improve the general skill set

o obtain feedback from a representative group of individuals doing the job on what areas they consider require addressing.

• Identifying training solutions—

o establish the best way of closing the skills/knowledge gaps identified in the previous step. Different options may include training courses conducted internally or externally, self directed learning, one-on-one training, or mentoring in the work environment.

• Evaluating performance after training to determine if performance gaps still exist and the training solution selected was appropriate. This can be achieved by—

o asking the personnel and/or their manager to evaluate their effectiveness in the task

o asking the personnel if the performance gaps that were the reason for the training are still there

o assessing the personnel as they perform tasks to determine whether there is still evidence of skill or knowledge deficiency.

Determining the timeframes of the safety training programme

With respect to timeframes for the training programme, both initial and recurrent training requirements need to be considered, developed and appropriately resourced.

Safety training syllabus

At a minimum a safety training syllabus should include the following high level areas of focus—

• organisational safety policies, goals and objectives
• organisational safety roles and responsibilities related to safety
• SMS fundamentals, including relationship to human factors
• safety risk management principles
• hazard identification and safety reporting
• safety communication.

The training programme should identify the scope and depth of the training

Documents Submitted as Evidence

Last Revision Date	Document Title	Electronic/Hard Copy Location

Scoring

5 - Well Controlled	
4 - Opportunities for improvement identified	
3 - Some weaknesses of concern identified	
2 - Significant weaknesses found	
1 - Poorly controlled	

Rating

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Medium	A control weakness or an issue that exposes the organisation to a moderate level of risk.
Low	An issue which represents a minor risk, resolution of which will improve the organisation's control environment.

12.1 Developing the content of the safety training programme

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
12.1.1	Is there a programme to provide SMS training/familiarization to personnel involved in the implementation or operation of the SMS?	5	course description	
12.1.2	Is the organisation's SMS training part of the organisation's overall training programme?	1	No documentation	
12.1.3	Is there is a process in place to measure the effectiveness of training and to take appropriate action to improve subsequent training?	1	No documentation	
12.1.4	Is there a process that evaluates the individual's competence that considers knowledge, skill and attitudes, and takes appropriate remedial action when necessary?	1	No documentation	
		4		
		20		
		8		
	Score	40%		

Total Material	0	Total Material	0
Total High	0	Total High	0
Total Medium	0	Total Medium	0
Total Low	0	Total Low	0

AC100 Safety Management (24 February 2016) Element 12—Safety Training and Competency

Requirements

12.2 Training programme and qualification documentation

Training and qualification requirements should be documented for each activity area in the organisation. A training file should be developed for all personnel, including management, to identify and record their training and competency requirements and achievements.

Documents Submitted as Evidence

Last Revision Date	Document Title	Electronic/Hard Copy Location

Scoring	Rating	
5 - Well Controlled	Material	A major control weakness or issue that exposes the organisation to a critical level of risk.
4 - Opportunities for improvement identified	High	A control weakness or an issue that exposes the organisation to a major / serious level of risk.
3 - Some weaknesses of concern identified	Medium	A control weakness or an issue that exposes the organisation to a moderate level of risk.
2 - Significant weaknesses found	Low	An issue which represents a minor risk, resolution of which will improve the organisation's control environment.
1 - Poorly controlled		

12.2 Training programme and qualification documentation

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
12.2.1	Is there evidence of organization-wide SMS education or awareness efforts?	3	Minimal documentation	
12.2.2	Is the training syllabus, eligibility and requirements documented?	5	SMS training	
12.2.3	Is a training record maintained for all staff?	5	IRIS	
		3		
		15		
		13		
	Score	87%		

Total Material	0
Total High	0
Total Medium	0
Total Low	0

AC100 Safety Management (24 February 2016) **Element 12—Safety Training and Competency**

Requirements

12.3 Who needs to undertake safety training

All personnel should take part in the organisation's safety training programme appropriate for their safety responsibilities. In particular, all operational/support personnel, managers, supervisors, senior managers, senior persons and the chief executive should be trained and be competent to perform their SMS duties.

Subcontractors may also require training on the use of the SMS or how to integrate their practices with the organisation's SMS, and on the organisation's expectations regarding safe working practices, hazard identification and safety reporting processes.

Documents Submitted as Evidence

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Scoring	Rating	
5 - Well Controlled	Material	A major control weakness or issue that exposes the organisation to a critical level of risk.
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2 - Significant weaknesses found	Low	An issue which represents a minor risk, resolution of which will improve the organisation's control environment.
1 - Poorly controlled		

12.3 Who needs to undertake safety training

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
12.3.1	Has the accountable executive undergone appropriate SMS familiarization, briefing or training?	5	SMS training	
12.3.2	Are personnel involved in conducting risk mitigation provided with appropriate risk management training or familiarization?	5	SMS training	
		2		
		10		
		10		
	Score	100%		

Total Material	0
Total High	0
Total Medium	0
Total Low	0

Section Score 76%

Section Total Material	**0**
Section Total High	**0**
Section Total Medium	**0**
Section Total Low	**0**

Requirements

13.1 What to communicate throughout the organisation

The following information needs to be regularly communicated to personnel in a systematic and measurable manner—

· leadership commitment to the SMS, its objectives and safety performance
· safety risk information; risks identified, methods of treatment, residual risks, etc.
· identified hazards and required controls
· personnel feedback on safety report submissions – the feedback loop should be closed
· safety reporting trends and statistics
· dissemination of information to base safety decisions on
· changes to the SMS
· changes to operational activities that may affect safety or existing procedures
· outcomes of safety investigations, audits and associated corrective and preventive actions
· lessons learnt and 'good-to-know' safety information.

Documents Submitted as Evidence

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13.1 What to communicate throughout the organisation

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
13.1.1	Are safety initiatives, strategies and information communicated throughout the organisation to staff?	2	Minimal documentation	
13.1.2	Are significant safety events and investigation outcomes communicated to staff, including contracted organisations where appropriate?	2	Not documented, verbal only (sometimes written)	
13.1.3	Are internal and external sources of safety information defined in the SMS documentation?	1	Not documented	
		3		
		15		
		5		
	Score	33%		

Total Material	0	Total Material	0
Total High	0	Total High	0
Total Medium	0	Total Medium	0
Total Low	0	Total Low	0

AC100 Safety Management (24 February 2016) Element 13—Communication of Safety-Critical Informatio

Requirements

13.2 What to communicate outside of the organisation

The following information should be communicated as required—

· potential hazards, risks or occurrences that may affect others
· lessons learned and solutions to identified hazards and risks
· potential risks associated with change (e.g. new infrastructure, regulatory changes, etc.).

Documents Submitted as Evidence

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Scoring

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13.2 What to communicate outside of the organisation

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
13.2.1	Does TAA participate in sharing safety information with relevant external industry product and service providers or organizations, including the relevant aviation regulatory organizations?	4	Share MOU and safety committee info.	
		1		

	5		
	4		
Score	80%		

Total Material	0
Total High	0
Total Medium	0
Total Low	0

AC100 Safety Management (24 February 2016) — Element 13—Communication of Safety-Critical Informatio

Requirements

13.3 Methods of communication

The methods and the content of safety communication are likely to differ according to the audience. The methods used to escalate information are important in determining how it is received and understood. One common way to achieve this is through regular safety committee meetings, where personnel and managers can proactively and openly discuss safety risks. Examples of external communication can be in the form of case studies that others may relate to, synopses of investigations undertaken, or through presentations at industry meetings.

Information dissemination can be achieved in a number of different ways, and it is important to use more than just one medium, ensuring there is a mixture of both active communication (e.g. the ability to interact and receive feedback) and passive communication. Some examples are—

Active methods of communication

· Regular safety-related meetings.
· Senior management conveying strategic safety information, goals and objectives (top down).
· Personnel informing management on safety issues (bottom up). This is usually more tactical information about what is going on in functional/ departmental areas.
· Team briefings and 'road show' initiatives.

Passive methods of communication

· the publication of an organisational safety magazine or newsletter
· web-based presentation
· forums
· emails.

The methods of communication should be commensurate with the size and complexity of the organisation.

Documents Submitted as Evidence

Last Revision Date	Document Title	Electronic/Hard Copy Location

Scoring

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2 - Significant weaknesses found	
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13.3 Methods of communication

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
13.3.1	Is the TAA SMS manual and related guidance material accessible or disseminated to all relevant personnel?	1	Not documented	
13.3.2	Is there is a safety communication plan that utilises means such as: electronic communication (emails, web-based presentations) regular safety meetings SMS newsletter, etc.	1	Not documented	
		2		
		10		
		2		
	Score	20%		

Total Material	0
Total High	0
Total Medium	0
Total Low	0

AC100 Safety Management (24 February 2016) — Element 13—Communication of Safety-Critical Informatio

Requirements

13.4 Safety promotion

Safety promotion supports safety communication goals and objectives. It is closely linked with safety training and the dissemination of safety information. It refers to those activities which the organisation carries out to ensure that personnel understand—

· why SMS procedures are in place
· what safety management means
· why particular safety actions are taken, etc.

Safety promotion provides a mechanism through which lessons from safety investigations and other safety-related activities are made available to all affected personnel.

Documents Submitted as Evidence

Last Revision Date	Document Title	Electronic/Hard Copy Location

Scoring

5 - Well Controlled

Rating

Material	A major control weakness or issue that exposes the organisation to a critical level of risk.

4 - Opportunities for improvement identified	
3 - Some weaknesses of concern identified	
2 - Significant weaknesses found	
1 - Poorly controlled	

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Medium	A control weakness or an issue that exposes the organisation to a moderate level of risk.
Low	An issue which represents a minor risk, resolution of which will improve the organisation's control environment.

13.4 Safety promotion

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
13.4.1	Is there evidence of a safety (SMS) publication, circular or channel for communicating safety (SMS) matters to employees? [5.3.92; 5.3.93; 5.5.5]	1	Not documented	
		1		
		5		
		1		
	Score	20%		

Total Material	0
Total High	0
Total Medium	0
Total Low	0

AC100 Safety Management (24 February 2016) Element 13—Communication of Safety-Critical Informatio

Requirements

13.5 How to promote safety effectively

Safety promotion activities should complement education and communication initiatives. The organisational safety promotion programme should be based on several different communication methods for reasons of flexibility and cost. Typical methods are—

· Spoken word: perhaps the most effective method, especially if supplemented with a visual presentation.

· Written word: the most popular method because of speed and economy, the printed safety promotion material also competes for attention with considerable amounts of other printed material.

· Electronic media: the use of the internet offers significant potential for improvement in the promotion of safety. This could include electronic newsletters, blogs, feedback tools such as surveys, etc.

Documents Submitted as Evidence

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Scoring

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13.5 How to promote safety effectively

No.	Questions	Score	Findings (include - Condition, Cause & Effect)	Risk Rating
13.5.1	Are there different methods of safety communication?	2	emails, verbal	
		1		
		5		
		2		
	Score	40%		

Total Material	0
Total High	0
Total Medium	0
Total Low	0

Section Score 39%

Section Total Material	**0**
Section Total High	**0**
Section Total Medium	**0**
Section Total Low	**0**

Audit Name:		Date:	

	Finding	Recommendations	Action	Priority	Due Date	Owner	Date Completed	Verified By	Comments
1									
2									
3									
4									
5									
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11									
12									

SIGN-OFF

Endorsed:	Comments:
_____ Date:_____ **Lead Auditor -**	
Endorsed:	**Comments:**
_____ Date:_____ **Safety & Risk Manager -**	
Endorsed:	**Comments:**
_____ Date:_____ **Production Manager -**	
Endorsed:	**Comments:**
_____ Date:_____ **Process Safety Superintendent**	
Endorsed:	**Comments:**
_____ Date:_____ **General Manager Operations**	
Endorsed:	**Comments:**
_____ Date:_____	