TAUPO AIRPORT AUTHORITY

Safety Management System Implementation Plan

Revision 1.0

Issued 30Jan2018

0.0 Table of Contents

1.0 Revision History and Approval

Rev.	Nature of changes	Approval	Date
1.0	Original release	Mike Groome	30Jan2018

2.0 Welcome to Taupo Airport Authority (Taupo Airport)

2.1. About Taupo Airport

Taupo Airport (Māori: *Te Papa Waka Rererangi o Taupō*, (IATA: TUO, ICAO: NZAP)) is a small airport 8 km to the south of Taupo township on the eastern shores of Lake Taupo, New Zealand.

Taupo Airport is operated as a Joint Venture between the Taupo District Council and the Crown, and is known as the Taupo Airport Authority (TAA). The TAA is a Council-Controlled Trading Organisation for the purposes of the Local Government Act 2002.

Scheduled flights are operated by Air New Zealand Link, using Bombardier DHC-8-Q300 from Auckland. Sounds Air also operates from Wellington using Pilatus PC-12. Due to Taupo's proximity to world-renowned trout fishing, golf, hunting, skiing and luxury resorts, the Airport is becoming an increasingly popular destination for private jets.

Several small charter and training operations are also based at Taupo along with maintenance providers and a large search and rescue facility. In addition, there are two commercial tandem skydiving operators making Taupo Airport the busiest drop zone in New Zealand.

Taupo Airport is located within a *Mandatory Broadcast Zone* (MBZ) in uncontrolled (G) airspace with type C airspace starting at 6500 ft AMSL and controlled by Christchurch Control. Taupo Airport is the second-busiest uncontrolled airport in New Zealand.

Because movements of non-turbojet airplanes with a seating capacity of more than 30 passengers engaged in regular air transport operations do not exceed the trigger level of 700 movements in the busiest three consecutive months of the year, the Taupo Airport does not require an on-site rescue and fire-fighting capability.

Taupo Airport provides safeguards at the airport to deter the entry of unauthorised persons or vehicles to the operational area and prevent the inadvertent entry of animals to the movement area.

Taupo Airport provides all the data and information necessary to enable aircraft operators and pilots to assess the suitability and condition of the airport for their aircraft operations published in the AIPNZ or via NOTAM.

Taupo Airport has implemented an Incident Reporting System database for incident reporting and audits.

2.2. TAA Strategic Alignment

The mission, vision and objectives of the TAA are aligned to the Taupo District Council as the primary financial authority for the airport.

The TAA is governed by a five-member special committee reporting to full council called the 'Taupo Airport Advisory Group Sub-Committee' (here and after referred to as the "TAA Advisory Group Sub-Committee"). The TAA Advisory Group Sub-Committee is comprised of two Taupo District Councillors, two members representing local businesses with no business connection to Taupo Airport and one representative from the Taupo Airport Users Group Inc.

Organisation chart

TAA staff include an Airport Chief Executive Officer (CEO), an Operations Manager and a Safety Manager. Each person is trained in all elements of the SMS as per AC-100. All other services are provided by third party contractors and consultants.

A Taupo Airport Safety Committee has been active for a number of years. They advise on all critical changes and provide support to the CEO and TAA Advisory Group Sub-Committee in risk-based decision-making.

Taupo District Council's commitment to comply with the NZ Health and Safety at Work Act 2015 forms the basis of safety management for the TAA. The TAA Operations Manager sits on the Taupo Council's Health and Safety Committee.

The objective stated in the Terms of Reference for the TAA Advisory Group Sub-Committee is:

To manage the Taupō Airport including safety requirements, leases and licences, and plan future development of the Airport.

This objective is aligned to the goals stated in AC-100 and the implementation of the SMS.

3.0 Content of the Plan

The Taupo Airport Authority (TAA) Safety Management System (SMS) implementation plan is a roadmap describing how TAA intends to implement processes to meet the requirements of Civil Aviation Rules Part 100, associated organisation certification rules, and achieve our goal of an injury and illness free workplace. The implementation plan is a strategy for managing SMS implementation including a thorough consultation and communication process, document development, sufficient resourcing, training and information, and culture change in a realistic timeframe.

Like any management of change process, the TAA SMS implementation requires a level of investment to address training, documentation changes, development time and system tools to manage data streams and assist with analysis. These changes are necessary to implement the SMS and will be managed in a structured way to ensure there is an awareness of the impact to operations and personnel, and these will be managed appropriately. TAA has engaged WIBIH, a third-party consulting company to guide and mentor the implementation team to minimise these impacts and ensure an industry best practice service.

The implementation plan provides sufficient detail to ensure that the TAA implementation team has identified how TAA will meet the overall objective of successfully implementing the SMS. This means that each element is present and suitable in the context of the activities the TAA undertakes.

The implementation plan has had key input from the CEO and individuals responsible for key functions within the organisation, in consultation with the Taupo Airport Operational & Safety Committee, TAA Advisory Group Sub-Committee and TAA user groups and stakeholders.

Application Form CAA 24100/01 includes a declaration by the TAA CEO that the plan is appropriate, achievable, adequately resourced and includes a proposed date for full implementation.

The implementation plan is documented in a project schedule format congruent with content and complexity of TAA operations. The SMS implementation plan addresses the following:

- overall governance for the implementation plan
- a strategic four-phase approach to implementation;
- a list of tasks identified during the gap analysis process sorted according to the phase allocation of their related elements;
- timelines and milestones for each task;
- responsibility for completion of the identified task;
- resourcing requirements; and
- coordination of integrating safety related third party contractors and suppliers without an SMS, into the scope of the TAA.

4.0 Gap analysis summary

A gap analysis was performed in November 2017 to evaluate the operating maturity of each AC-100 element. To execute the gap analysis, an independent third-party expert (WIBIH) was engaged to audit SMS performance against all AC-100 elements. The summary results are shown in the table below.

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 Documentation	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%**

The analysis is based on a series of questions derived from both the CAA Safety Management System Evaluation Tool and the International Civil Aviation Organization (ICAO) Safety Management Manual. Each section results in a performance score based on the outcome of demonstrated performance of each question within the section.

The analysis requires evidence of existing documentation and demonstration of implementation in the field. The third-party experts found that many practices from AC-100 were in use but not adequately documented resulting in a reduced score.

This table was used to calculate the gap analysis scores.

PERFORMANCE SCORE	
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.

5.0 SMS Phases of Implementation

TAA is facilitating a phased approach to SMS implementation. This phased approach recognises that implementation of a fully mature SMS is a multi-year process. A phased implementation approach permits the TAA SMS to become more mature as each implementation phase is completed. The fundamental safety management processes are completed prior to moving to successive phases which involve greater complexity.

Four implementation phases are proposed for the TAA SMS. Each phase is associated with various elements and sub-elements as per the CAA SMS framework. A summary of the four phases of the TAA SMS implementation plan is shown below in Table 1.

Overall, this plan considers the people, processes and technology required to comply with all safety regulations, but most importantly, to achieve a safe workplace in line with our vision: “Great people delivering the best airport experience.”

Table 1 - Four Phases of SMS implementation

Phase 1 - Plan (3 months)	Phase 2 - Do (2 months)	Phase 3 - Check (6 months)	Phase 4 - Act (8 months)
1. Perform an SMS gap analysis. 2. Develop an SMS implementation plan. 3. SMS Element 1.2 (i): a) identify the SMS accountable executive; b) establish an SMS implementation team; c) define the scope of the SMS; 4. SMS Element 1.4: a) confirm a key person/office responsible for the administration and maintenance of the SMS. 5. SMS Element 12 (i): a) establish an SMS training programme for personnel, with priority for the SMS implementation team. 6. SMS Element 13 (i): a) confirm SMS/ safety communication channels.	1. SMS Element 1.1 (i): a) review and update safety policy and objectives, 2. SMS Element 1.2 (ii): a) review and update safety management responsibilities and accountabilities; b) review or establish an SMS/safety coordination mechanism/ committee; 3. SMS Element 2: a) review and update emergency response plan. 4. SMS Element 3: a) initiate progressive development of a revised SMS manual and supporting documentation.	1. SMS Element 4 (i): a) implement an online hazard reporting process and update hazard reporting procedures. 2. SMS Element 5: a) review and update safety risk management procedures. 3. SMS Element 6: a) establish an internal investigation program. 4. SMS Element 7 (i): a) implement an online occurrence reporting system and update incident reporting and investigation procedures; b) establish a safety data collection and processing system for high-consequence outcomes; c) review and update Safety Performance Indicators (SPI) and associated targets and alert settings. 5. SMS Element 8: a) review and update the management of change procedure that includes a safety risk assessment process. 6. SMS Element 9: a) implement a continuous improvement program. 7. SMS Element 10 (i): a) review and update an internal quality audit programme; b) review and update an external quality audit programme. 8. SMS Element 11: a) Document the management review process.	1. SMS Element 1: a) enhance the existing disciplinary procedure/ policy with due consideration of unintentional errors or mistakes from deliberate or gross violations. 2. SMS Element 4 (ii): a) integrate hazards identified from occurrence investigation reports with the voluntary hazard reporting system; b) integrate hazard identification and risk management procedures with the subcontractor's or customer's SMS where applicable. 3. SMS Element 7 (ii): a) enhance the safety data collection and processing system to include lower- consequence events; b) develop lower-consequence SPIs and associated targets/alert settings. 4. SMS Element 10 (ii): a) establish SMS audit programmes or integrate them into existing internal and external audit programmes; b) establish other operational SMS review/survey programmes where appropriate. 5. SMS Element 12 (ii): a) ensure that the SMS training programme for all relevant personnel has been completed. 6. SMS Element 13 (ii): a) promote safety information sharing and exchange internally and externally.
Note - The SMS element numbers indicated correspond to the CAA SMS element numbers. Suffixes such as a), b) and c) indicate that the element has been subdivided to facilitate the phased implementation approach.			

A detailed description of the four stages is described below. Details for each element is noted in Appendix B.

Phase 1

The objective of Phase 1 of the TAA SMS implementation is to provide a blueprint of how the SMS requirements will be met and integrated into the organisation's control systems, as well as an accountability framework for the implementation of the SMS.

During Phase 1, basic planning and assignment of responsibilities are established. Central to Phase 1 is the gap analysis. From the gap analysis, TAA will determine the status of existing safety management processes, the integration with other management systems, and then commence planning for the development of further safety management processes. The key output of Phase 1 is the SMS implementation plan.

Phase 2

The objective of Phase 2 is to implement essential safety management processes. Phase 2 aims at consolidating existing TAA SMS activities and developing those which do not currently exist. The key output of Phase 2 is a draft SMS manual.

Phase 3

The objective of Phase 3 is to establish safety risk management processes. Towards the end of Phase 3, the organisation will be ready to collect safety data and perform safety analyses based on information obtained through the various reporting systems. The SMS manual will be updated at the end of this phase.

Phase 4

Phase 4 is the final phase of SMS implementation. This phase involves the mature implementation of safety risk management and safety assurance. In this phase operational safety assurance is assessed through the implementation of periodic monitoring, feedback and continuous corrective action to maintain the effectiveness of safety risk controls. This phase is due for completion on 12 April 2019 well in advance of the TAA Aerodrome Operator Certificate Part 139 renewal.

6.0 Resource planning

The TAA Safety Manager is the SMS implementation lead. Resources have been assigned to each task in the plan in Appendix A.

Status updates will be presented at both the Advisory Safety Committee level with reports rolled up to the TAA Advisory Group Sub-Committee and Taupo Council.

The TAA Safety Manager will work closely with the TAA Operations Manager to create, document and implement all processes as per the schedule. The project lead also has access to WIBIH, a third-party safety and risk expert company to create draft sections of the SMS manual and consult on best practise on culture, communications and process.

TAA has also invested in an SMS software as a service offering comprised of the following services:

- SMS software platform with workflow and advanced business intelligence reporting;
- News flash with relevant aviation safety events and lessons from around the world;

- Continuous improvement advice;
- Audit and assurance services at a systems and functional level – third line of defence.

This software platform includes a structured process that logs and controls all changes made to documentation, incidents and other data in the system.

The budget for the SMS project, transition and three years of ongoing costs (excluding governance) is NZ$90k.

Deliverable inputs to the project are outlined in the table below:

Deliverable Input	**Owner**
Reporting policy and Communications plan endorsement. Safety accountability document. Safety review plan.	Safety Committee
Safety commitment statement and Safety policy endorsement. Attend relevant safety conferences. Job descriptions and a duty statement.	CEO
Operational process documents, hazard identification, control ownership.	Operations Manager
Attend relevant safety conferences, safety reports and Safety Performance Indicators.	Safety Manager

7.0 SMS integration with third party service providers

TAA utilises both certified and non-certified service providers on the Taupo airport premises. TAA is coordinating with other entities in the airport community to ensure communication and emergency response is in place and effective. Non-certified entries in the airport community will undergo an induction process that includes safety communication, emergency response and awareness.

8.0 Implementation Risks

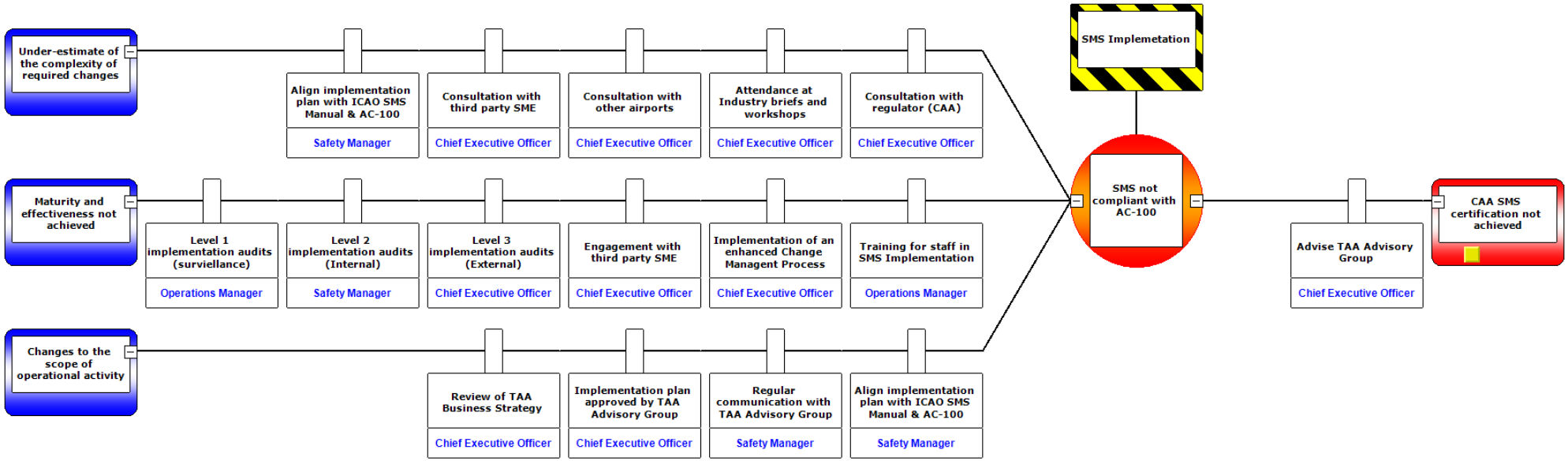
TAA has identified three main risks that could affect our goal to effectively implement an SMS.

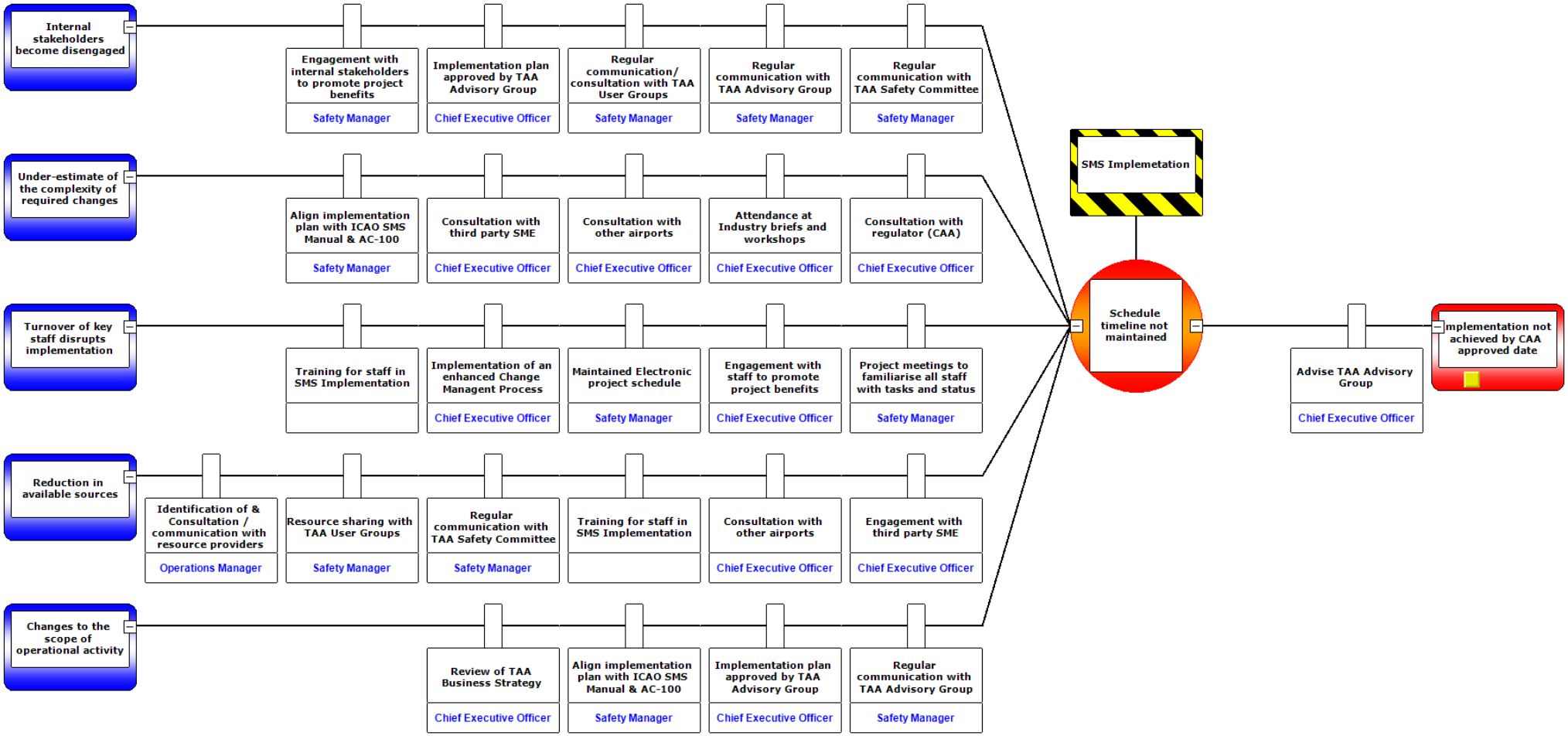
These risks will be monitored as a function of the SMS Governance Team and incorporated into our current Management Review Process. The individual risks are visualised below in BowTie format. Further information about control requirements are embedded behind each control.

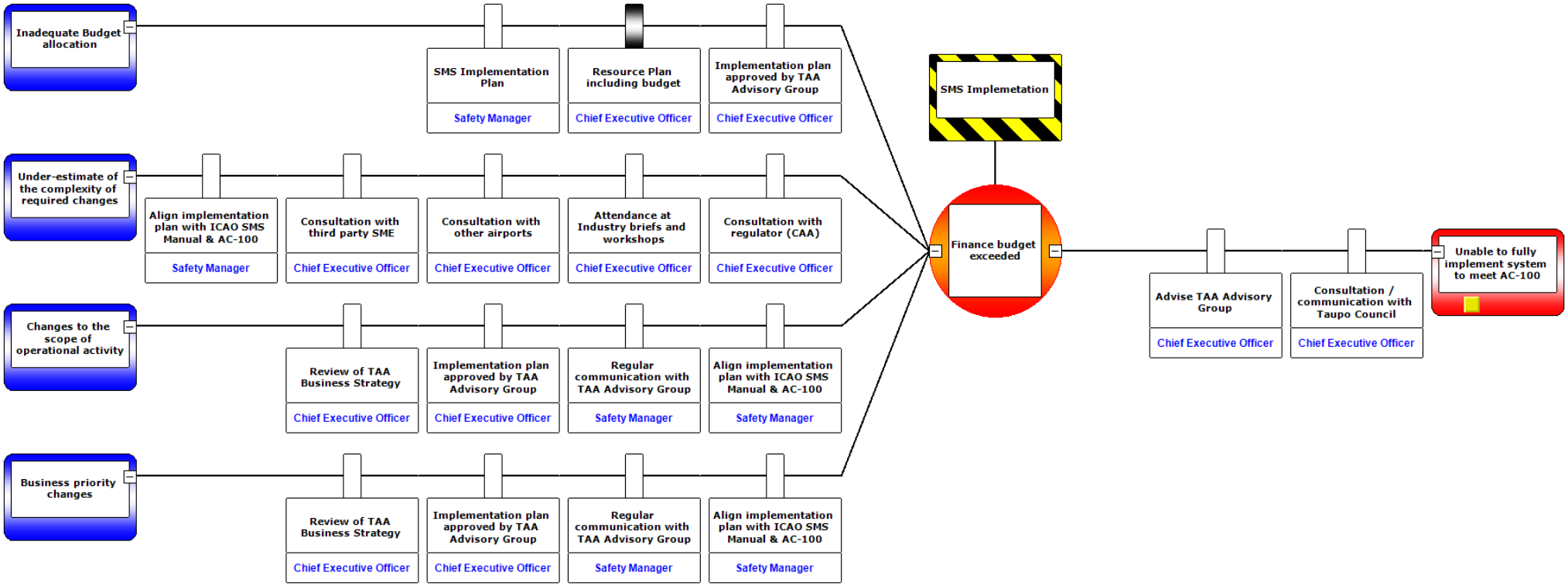
Risks Associated with the SMS Implementation Plan:

1. SMS not compliant with AC-100;
2. Schedule timeline not maintained;
3. Finance budget exceeded.

The risk visualisation diagrams below denote causes in the boxes on the left hand side, consequences in boxes on the right hand side and controls in the boxes along each “scenario” line. Each control has an owner noted at the bottom of each control box. The effectiveness of the controls will be monitored over time.


SMS Implemetation
Under-estimate of the complexity of required changes
Align implementation plan with ICAO SMS Manual & AC-100
Safety Manager
Consultation with third party SME
Chief Executive Officer
Consultation with other airports
Chief Executive Officer
Attendance at Industry briefs and workshops
Chief Executive Officer
Consultation with regulator (CAA)
Chief Executive Officer
Maturity and effectiveness not achieved
Level 1 implementation audits (surviellance)
Operations Manager
Level 2 implementation audits (Internal)
Safety Manager
Level 3 implementation audits (External)
Chief Executive Officer
Engagement with third party SME
Chief Executive Officer
Implementation of an enhanced Change Managent Process
Chief Executive Officer
Training for staff in SMS Implementation
Operations Manager
Changes to the scope of operational activity
Review of TAA Business Strategy
Chief Executive Officer
Implementation plan approved by TAA Advisory Group
Chief Executive Officer
Regular communication with TAA Advisory Group
Safety Manager
Align implementation plan with ICAO SMS Manual & AC-100
Safety Manager
SMS not compliant with AC-100
Advise TAA Advisory Group
Chief Executive Officer
CAA SMS certification not achieved


Internal stakeholders become disengaged
Engagement with internal stakeholders to promote project benefits
Safety Manager
Implementation plan approved by TAA Advisory Group
Chief Executive Officer
Regular communication/ consultation with TAA User Groups
Safety Manager
Regular communication with TAA Advisory Group
Safety Manager
Regular communication with TAA Safety Committee
Safety Manager
Under-estimate of the complexity of required changes
Align implementation plan with ICAO SMS Manual & AC-100
Safety Manager
Consultation with third party SME
Chief Executive Officer
Consultation with other airports
Chief Executive Officer
Attendance at Industry briefs and workshops
Chief Executive Officer
Consultation with regulator (CAA)
Chief Executive Officer
Turnover of key staff disrupts implementation
Training for staff in SMS Implementation
Implementation of an enhanced Change Managent Process
Chief Executive Officer
Maintained Electronic project schedule
Safety Manager
Engagement with staff to promote project benefits
Chief Executive Officer
Project meetings to familiarise all staff with tasks and status
Safety Manager
Reduction in available sources
Identification of & Consultation / communication with resource providers
Operations Manager
Resource sharing with TAA User Groups
Safety Manager
Regular communication with TAA Safety Committee
Safety Manager
Training for staff in SMS Implementation
Consultation with other airports
Chief Executive Officer
Engagement with third party SME
Chief Executive Officer
Changes to the scope of operational activity
Review of TAA Business Strategy
Chief Executive Officer
Align implementation plan with ICAO SMS Manual & AC-100
Safety Manager
Implementation plan approved by TAA Advisory Group
Chief Executive Officer
Regular communication with TAA Advisory Group
Safety Manager
SMS Implemetation
Schedule timeline not maintained
Advise TAA Advisory Group
Chief Executive Officer
mplementation not achieved by CAA approved date

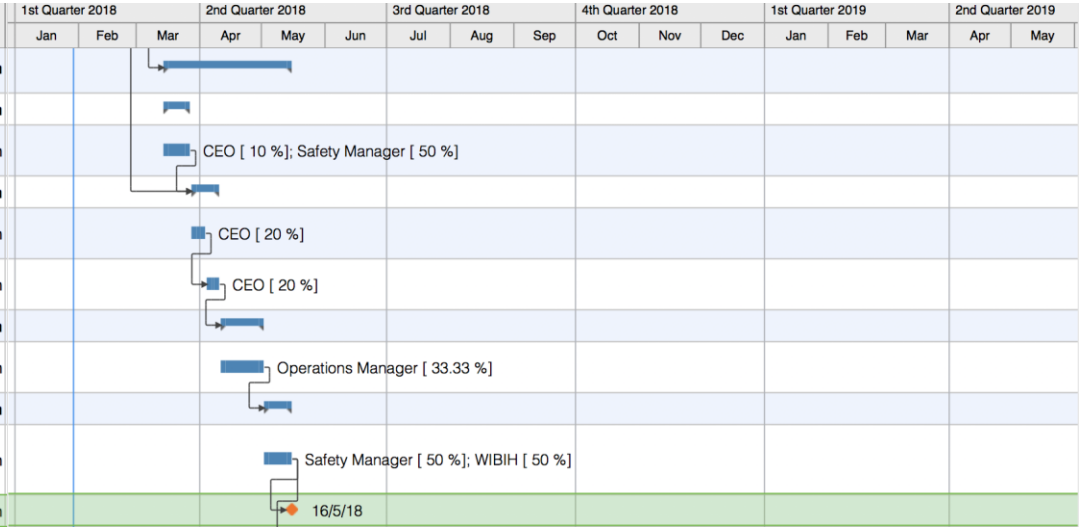

Inadequate Budget allocation
SMS Implementation Plan
Safety Manager
Resource Plan including budget
Chief Executive Officer
Implementation plan approved by TAA Advisory Group
Chief Executive Officer
Under-estimate of the complexity of required changes
Align implementation plan with ICAO SMS Manual & AC-100
Safety Manager
Consultation with third party SME
Chief Executive Officer
Consultation with other airports
Chief Executive Officer
Attendance at Industry briefs and workshops
Chief Executive Officer
Consultation with regulator (CAA)
Chief Executive Officer
Changes to the scope of operational activity
Review of TAA Business Strategy
Chief Executive Officer
Implementation plan approved by TAA Advisory Group
Chief Executive Officer
Regular communication with TAA Advisory Group
Safety Manager
Align implementation plan with ICAO SMS Manual & AC-100
Safety Manager
Business priority changes
Review of TAA Business Strategy
Chief Executive Officer
Implementation plan approved by TAA Advisory Group
Chief Executive Officer
Regular communication with TAA Advisory Group
Safety Manager
Align implementation plan with ICAO SMS Manual & AC-100
Safety Manager
SMS Implemetation
Finance budget exceeded
Advise TAA Advisory Group
Chief Executive Officer
Consultation / communication with Taupo Council
Chief Executive Officer
Unable to fully implement system to meet AC-100

9.0 Appendix A – Implementation Timeline

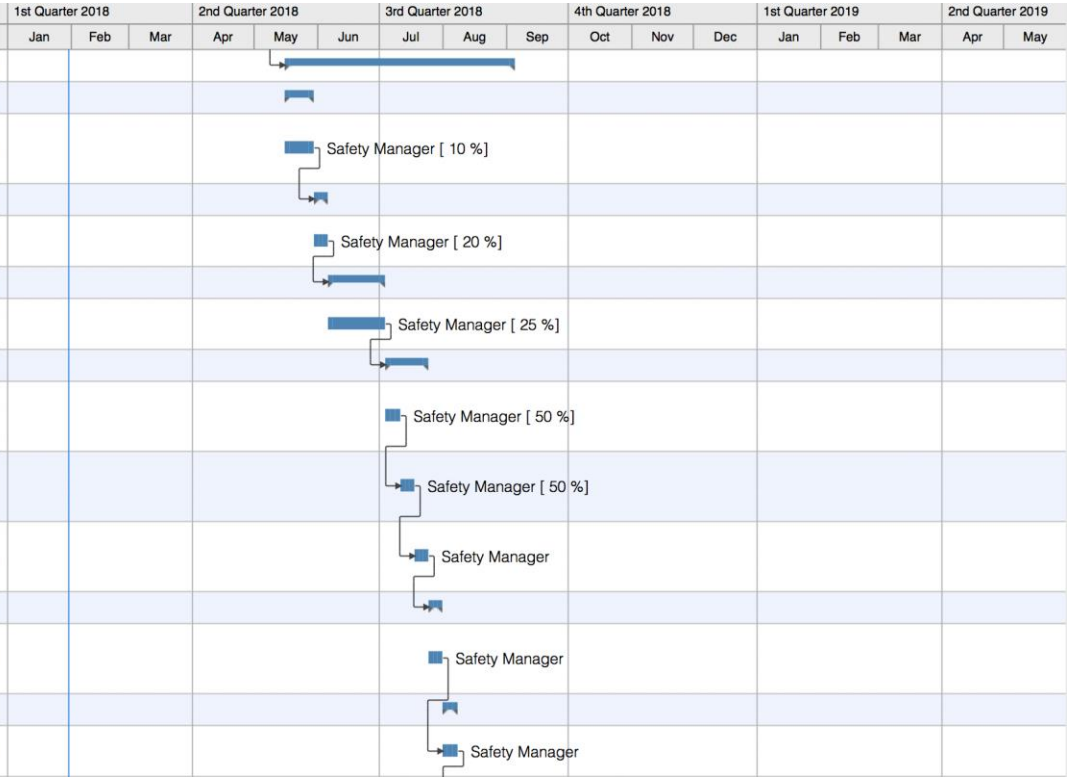
Below is the implementation timeline based on duration. Please note that effort is noted in the “Work” column and resources are listed to the right of each task. The overall duration of each task is detailed and includes built in delay time for key inputs, consultation and communication.

#	Name	Duration	Start	Finish	Work
1	**TAA Implementation Plan**	**384 d**	**8/1/18**	**28/6/19**	**1,707 h**
2	**Plan**	**47 d**	**8/1/18**	**13/3/18**	**142 h**
3	1. Perform an SMS gap analysis.	5 d	8/1/18	12/1/18	16 h
4	2. Develop an SMS implementation plan.	5 d	15/1/18	19/1/18	40 h
5	**3. SMS Element 1.2 (i):**	**9 d**	**22/1/18**	**1/2/18**	**27 h**
6	a) identify the SMS accountable executive;	1 d	22/1/18	22/1/18	1 h
7	b) establish an SMS implementation team;	5 d	23/1/18	29/1/18	2 h
8	c) define the scope of the SMS;	3 d	30/1/18	1/2/18	24 h
9	**4. SMS Element 1.3:**	**1 d**	**2/2/18**	**2/2/18**	**1 h**
10	a) confirm a key person/office responsible for the administration and maintenance of the SMS.	1 d	2/2/18	2/2/18	1 h
11	**5. SMS Element 1.4:**	**2 d**	**5/2/18**	**6/2/18**	**2 h**
12	a) Appoint key safety personnel.	2 d	5/2/18	6/2/18	2 h
13	**6. SMS Element 12 (i):**	**15 d**	**7/2/18**	**27/2/18**	**40 h**
14	a) establish an SMS training programme for personnel, with priority for the SMS implementation team.	15 d	7/2/18	27/2/18	40 h
15	**7. SMS Element 13 (i):**	**10 d**	**28/2/18**	**13/3/18**	**16 h**
16	a) confirm SMS/ safety communication channels.	10 d	28/2/18	13/3/18	16 h
17	Planning phase complete		14/3/18		0 h

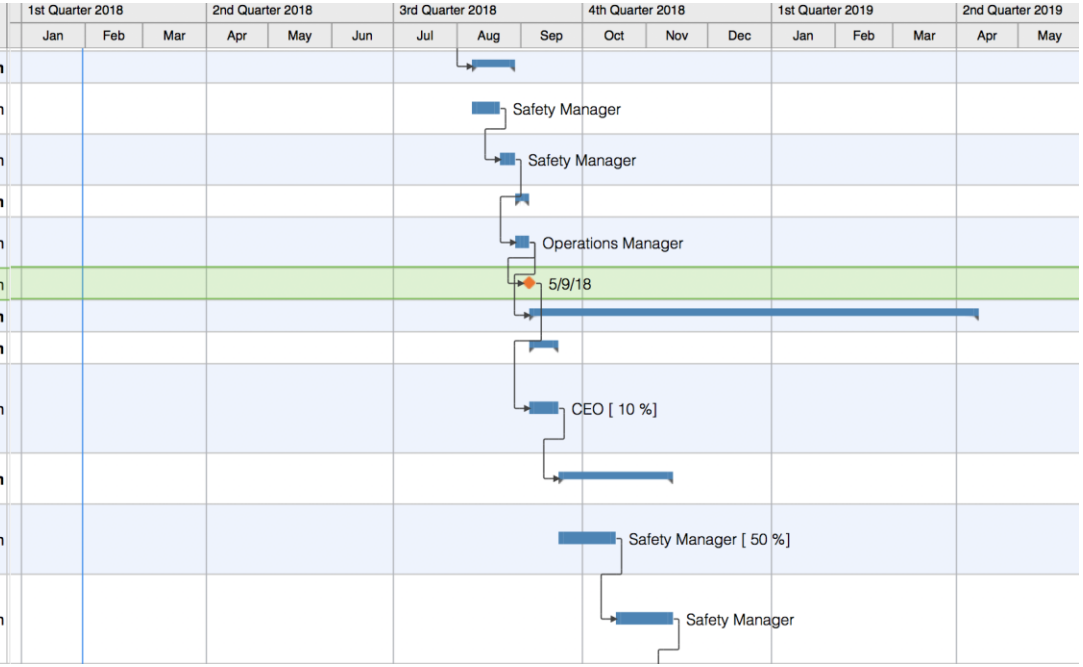
#	Name	Duration	Start	Finish	Work
18	**Do**	**45 d**	**14/3/18**	**16/5/18**	**184 h**
19	**1. SMS Element 1.1 (i):**	**10 d**	**14/3/18**	**27/3/18**	**48 h**
20	a) review and update safety policy and objectives,	10 d	14/3/18	27/3/18	48 h
21	**2. SMS Element 1.2 (ii):**	**10 d**	**28/3/18**	**10/4/18**	**16 h**
22	a) review and update safety management responsibilities and accountabilities;	5 d	28/3/18	3/4/18	8 h
23	b) review or establish an SMS/safety coordination mechanism/ committee;	5 d	4/4/18	10/4/18	8 h
24	**3. SMS Element 2:**	**15 d**	**11/4/18**	**2/5/18**	**40 h**
25	a) review and update emergency response plan.	15 d	11/4/18	2/5/18	40 h
26	**4. SMS Element 3:**	**10 d**	**2/5/18**	**16/5/18**	**80 h**
27	a) initiate progressive development of a revised SMS manual and supporting documentation.	10 d	2/5/18	16/5/18	80 h
28	Doing phase complete		16/5/18		0 h



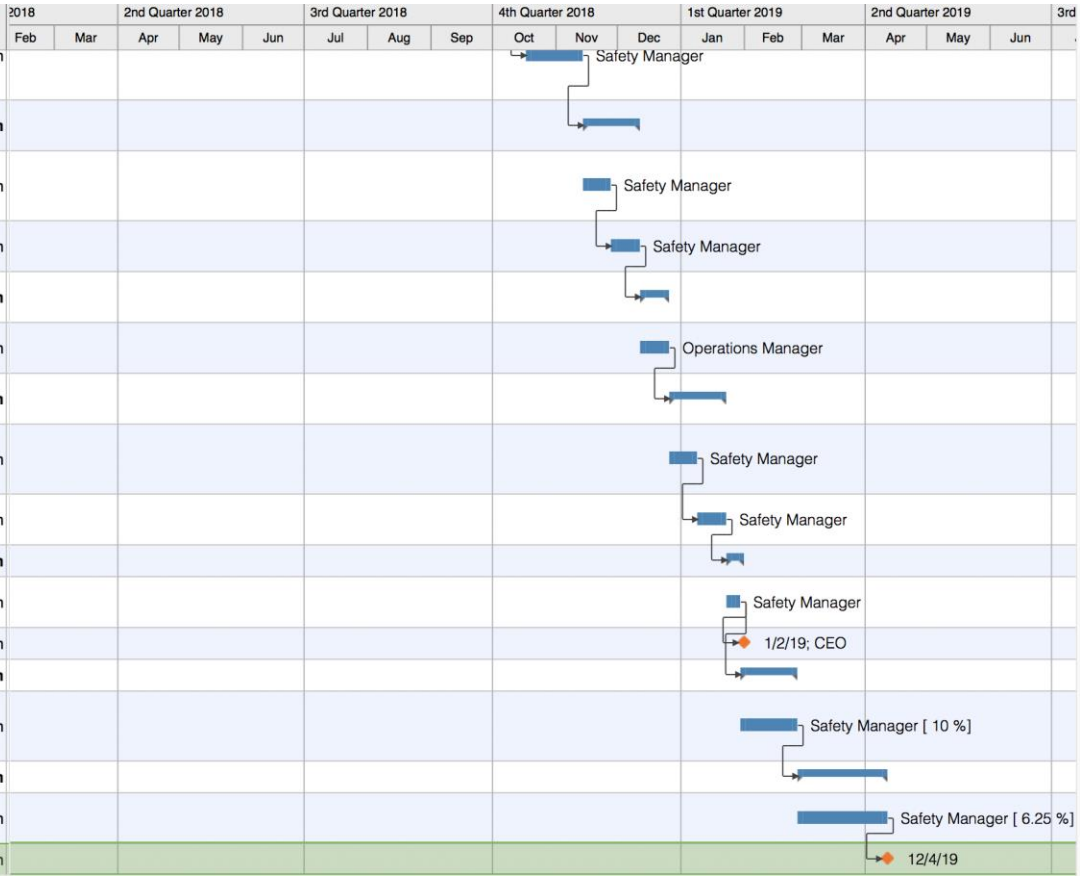
#	Name	Duration	Start	Finish	Work
29	**Check**	**80 d**	**16/5/18**	**5/9/18**	**376 h**
30	**1. SMS Element 4 (i):**	**10 d**	**16/5/18**	**30/5/18**	**8 h**
31	a) implement an online hazard reporting process and update hazard reporting procedures.	10 d	16/5/18	30/5/18	8 h
32	**2. SMS Element 5:**	**5 d**	**30/5/18**	**6/6/18**	**8 h**
33	a) review and update safety risk management procedures.	5 d	30/5/18	6/6/18	8 h
34	**3. SMS Element 6:**	**20 d**	**6/6/18**	**4/7/18**	**40 h**
35	a) establish an internal investigation program.	20 d	6/6/18	4/7/18	40 h
36	**4. SMS Element 7 (i):**	**15 d**	**4/7/18**	**25/7/18**	**80 h**
37	a) implement an online occurrence reporting system and update incident reporting and investigation procedures;	5 d	4/7/18	11/7/18	20 h
38	b) establish a safety data collection and processing system for high-consequence outcomes;	5 d	11/7/18	18/7/18	20 h
39	c) review and update Safety Performance Indicators (SPI) and associated targets and alert settings.	5 d	18/7/18	25/7/18	40 h
40	**5. SMS Element 8:**	**5 d**	**25/7/18**	**1/8/18**	**40 h**
41	a) review and update the management of change procedure that includes a safety risk assessment process.	5 d	25/7/18	1/8/18	40 h
42	**6. SMS Element 9:**	**5 d**	**1/8/18**	**8/8/18**	**40 h**
43	a) implement a continuous improvement program.	5 d	1/8/18	8/8/18	40 h



#	Name	Duration	Start	Finish	Work
44	**7. SMS Element 10 (i):**	**15 d**	**8/8/18**	**29/8/18**	**120 h**
45	a) review and update an internal quality audit programme;	10 d	8/8/18	22/8/18	80 h
46	b) review and update an external quality audit programme.	5 d	22/8/18	29/8/18	40 h
47	**8. SMS Element 11:**	**5 d**	**29/8/18**	**5/9/18**	**40 h**
48	a) Document the management review process.	5 d	29/8/18	5/9/18	40 h
49	Checking phase complete		5/9/18		0 h
50	**Act**	**157 d**	**5/9/18**	**12/4/19**	**720 h**
51	**1. SMS Element 1:**	**10 d**	**5/9/18**	**19/9/18**	**8 h**
52	a) enhance the existing disciplinary procedure/ policy with due consideration of unintentional errors or mistakes from deliberate or gross violations.	10 d	5/9/18	19/9/18	8 h
53	**2. SMS Element 4 (ii):**	**40 d**	**19/9/18**	**14/11/18**	**240 h**
54	a) integrate hazards identified from occurrence investigation reports with the voluntary hazard reporting system;	20 d	19/9/18	17/10/18	80 h
55	b) integrate hazard identification and risk management procedures with the subcontractor's or customer's SMS where applicable.	20 d	17/10/18	14/11/18	160 h



#	Name	Duration	Start	Finish	Work
55	subcontractor's or customer's SMS where applicable.	20 d	17/10/18	14/11/18	160 h
56	**3. SMS Element 7 (ii):**	**20 d**	**14/11/18**	**12/12/18**	**160 h**
57	a) enhance the safety data collection and processing system to include lower-consequence events;	10 d	14/11/18	28/11/18	80 h
58	b) develop lower-consequence SPIs and associated targets/alert settings.	10 d	28/11/18	12/12/18	80 h
59	**4. SMS Element 9:**	**10 d**	**12/12/18**	**26/12/18**	**80 h**
60	a) review and document the current continuous improvement process	10 d	12/12/18	26/12/18	80 h
61	**5. SMS Element 10 (ii):**	**20 d**	**26/12/18**	**23/1/19**	**160 h**
62	a) establish SMS audit programmes or integrate them into existing internal and external audit programmes;	10 d	26/12/18	9/1/19	80 h
63	b) establish other operational SMS review/ survey programmes where appropriate.	10 d	9/1/19	23/1/19	80 h
64	**6. SMS Element 11:**	**7 d**	**23/1/19**	**1/2/19**	**40 h**
65	a) review and document the current safety oversight process.	5 d	23/1/19	30/1/19	40 h
66	Submit SMS Certification documents to CAA		1/2/19		0 h
67	**7. SMS Element 12 (ii):**	**20 d**	**30/1/19**	**27/2/19**	**16 h**
68	a) ensure that the SMS training programme for all relevant personnel has been completed.	20 d	30/1/19	27/2/19	16 h
69	**8. SMS Element 13 (ii):**	**32 d**	**27/2/19**	**12/4/19**	**16 h**
70	a) promote safety information sharing and exchange internally and externally.	32 d	27/2/19	12/4/19	16 h
71	Act phase complete		12/4/19		0 h



10.0 Appendix B – SMS Elements

Description of each individual SMS element.

Element 1.1 - Safety Policy

a. Review the current safety policy to confirm it includes:
   - 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;
   - a periodic review process to ensure it remains current.

b. In consultation with TAA senior management, develop a safety policy that includes;
   - 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;
   - a periodic review process to ensure it remains current.

c. Make the safety policy visible and available to all personnel (including significant contracted organisations), this includes;
   - incorporating the TAA safety policy into the SMS Manual;
   - incorporating the TAA safety policy into employee and contractor inductions, toolbox talks, and other relevant training programmes;
   - Posting the TAA safety policy in suitable locations in the workplace.

d. Verify that personnel and contractors are familiar with and have understood the policy. This is achieved by facilitating an annual safety workshop with employees and contractors to seek feedback on safety related issues and enforcing the TAA safety policy;

e. Schedule a regular, minimum 12-month review of the safety policy.

Element 1.2 - Management commitment and responsibility

a. Identify the safety responsibilities, accountabilities and authorities of all members of senior management with respect to the safety performance of the SMS. These will be:
   - agreed by the management team;
   - documented in the SMS Manual;
   - communicated throughout the organisation;
   - include a definition of the levels of management with authority to make decisions regarding safety risk tolerability;
   - performance reviewed annually; and
   - documented in a RACI chart.

b. Determine the resources requirements, both in terms of personnel and funding. This includes resources for:
   - Safety management;
   - Emergency response;
   - Training management.

c. Develop, document and communicate, a TAA Mission Statement and Corporate Values Statement. The corporate values aim to promote a generative safety culture which is:
   - informed;

- just;
- reporting;
- learning; and
- flexible.

d. In consultation with TAA senior management team, document Personal Safety Commitment Statements, these will be;
   - individual to each manager;
   - displayed visible to other personnel as a demonstrated commitment to safety;
e. Develop and implement a simplified behaviour based Safety Conversation programme, this will:
   - be developed in consultation with management, staff and contractors;
   - provide guidance and training on effectively discussing safety with personnel and contractors;
   - be performance based and included in management KPIs.
f. Establish an SMS implementation team. The team will:
   - be comprised of representatives from TAA's relevant departments;
   - drive the SMS implementation from the planning stage to its final implementation;
   - developing the SMS implementation plan;
   - ensure the adequate SMS training and technical expertise of the team in order to effectively implement the SMS elements and related processes; and
   - monitor and report on the progress of the SMS implementation, providing regular updates and coordinating with the SMS accountable executive.
   - define the scope of the TAA's activities to which the SMS is applicable.
   - conduct a gap analysis of the TAA's current systems and processes in relation to the SMS framework requirements.
g. Determine the relationship between the SMS and other management systems;
h. Conduct a safety training needs analysis;
i. Provide safety management training to the CEO, Operations Manager and Safety Manager, this will include:
   - safety policy;
   - commitment and responsibility;
   - safety conversation, consultation and communication;
   - safety culture;
   - management review;
   - management of change;
   - monitoring and measuring safety performance;
   - continuous improvement of the SMS.

Element 1.3 - Safety Accountabilities

a. Identify the TAA CEO as the accountable executive for the SMS. The CEO's responsibilities will as a minimum, include:
   - the CEO 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;
   - corporate authority for ensuring all activities can be financed and carried out to the required standard;
   - final authority over operational matters;
   - final accountability for all safety issues.
   - Approval authority for the TAA's documented.

Element 1.4 - Appointment of key safety personnel

a. Identify the senior TAA person who will fulfil the role of Safety Manger. The Safety Manager will:

- be responsible for oversight and coordination of all SMS-related policies, procedures and activities. but is not responsible for ensuring or 'managing safety';
- report to the CEO.
- not hold conflicting responsibilities for operational areas.

b. Provide safety management training to the Safety Manager, this will include:
   - Safety coordination;
   - consultation and communication;
   - hazard identification and risk management;
   - development, control and maintenance of safety management documentation;
   - safety induction, training and competence;
   - coordination of emergency response planning;
   - safety investigation;
   - internal audit programme;
   - management of change;
   - monitoring and measuring safety performance.

Element 2 - Coordinated Emergency Response Planning (ERP)

a. Conduct a gap analysis of current ERP. This includes validating:
   - 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.
b. Facilitate risk workshop to determine key risk events;
c. Determine emergency resource requirements;
d. Review current Emergency Response Plan;
e. Conduct emergency management training needs analysis;
f. Facilitate emergency management training. This includes:
   - emergency planning;
   - emergency response;
   - emergence management and coordination;
   - facilitating emergency exercises;
   - recovery and business continuity.
g. Test the ERP - Table Top Exercise (TTX);
h. Test the ERP - Full Scale Exercise (FSX);
i. Review the ERP; and
j. Communicate the ERP. This includes making the ERP available by:
   - filing in the electronic document library for access by TAA staff;
   - providing a controlled printed format for access by contractors and visitors.

Element 3.1 - Development of SMS documentation

a. Conduct a gap review and gap analysis of the current TAA document suite;
b. Develop a TAA Safety Management Manual. The SMS Manual will include:
   - context of TAA operations, including details of contracted activities (key service providers);
   - the Scope of the Safety Management System;
   - relationship between SMS and other management systems;
   - safety policy and accountability, including the structure of the safety management organisation;
   - coordinated emergency response planning (ERP);
   - development, control and maintenance of safety management documentation;

- hazard identification;
- risk management;
- safety investigation, including non-punitive reporting process (Just Culture);
- monitoring and measuring safety performance, including safety objectives;
- management of change;
- continuous improvement of the SMS;
- internal audit programme;
- management review;
- safety training and competence;
- communication of safety-critical information;

c. Review the current Certification Exposition document, and develop an Operations Manual which includes the Aerodrome Exposition and procedures library. The Operations Manual will include:
   - a description of specific templates, such as forms and checklists;
   - operational, safety, quality, environment and security management procedures for:

d. Communicate the Safety Management Manual and the Operations Manual. The SMS Manual and the Operations Manual will be available:
   - in the electronic document library for access by TAA staff;
   - in controlled printed format for access by contractors and visitors;
   - provided to CAA as part of the SMS certification process in electronic (PDF) format.

Element 3.2 - Control and maintenance of SMS documentation

a. Review the current document management process;
b. Develop a document management procedure for inclusion in the Operations Manual. The procedure will include:
   - a risk assessment underpinning all procedures;
   - review schedules;
   - changes to be approved by the CEO;
   - an acceptance by the regulator as part of the exposition as required by the Rules.
c. Implement an electronic Safety, Training, Employee Management Systems database. This online system will support;
   - document library;
   - hazard reporting;
   - incident reporting;
   - audits and inspections;
   - meeting minutes;
   - safety conversations;
   - training records;
   - injury management records;
   - human resource management.

- Provide guidance and training on effectively SMS system documentation management with personnel and contractors;

Element 4.1 - Hazard identification in practice

a. Review the TAA hazard reporting process to determine if it is based where practicable, on a combination of reactive, proactive and predictive safety data collection;
b. Develop a hazard reporting procedure which includes:
   - proactive reporting of hazards
   - recognition for employee and contractor hazard reporting;
   - risk assessment reviews;
   - internal investigation of safety occurrences;

- results from operational safety audits carried out internally and by CAA;
- analysed data from automated data collecting tools;
- monitoring of “day-to-day” normal operations and environment, through safety walks and safety conversations;
- official State investigation results of accidents and serious incidents;
- information exchange practices between operators/service providers.

Element 4.2 - Selecting the hazard identification technique

a. Develop a hazard identification procedure for inclusion in the Operations Manual. The procedure will include:
   - safety walks;
   - task analysis;
   - brainstorming;
   - safety occurrence trend analysis;
   - Structured What-if (SWIFT).

Element 4.3 - Features of a successful hazard identification process

a. Review the effectiveness of the hazard analysis procedure to ensure the process appropriate and relevant to TAA operations. This is achieved by:
   - consulting with appropriate members of the workforce;
   - documenting all methods, results, assumptions and data;
   - maintaining hard copies of the hazard analyses in a managed filing system, and backing up electronically in the electronic document library;
   - providing updates and alerts across TAA operations of occurrences;
   - active and visible engagement from senior management encouraging personnel at all levels to proactively report hazards, errors and near misses;
   - promoting a generative culture across the organisation to ensure that personnel are confident in submitting hazard reports.

Element 4.4 - Developing a hazard system identification process

a. Conduct communication and consultation workshops with stakeholders, both within and outside of TAA to identify the following:
   - Who are they?
   - What do they want?
   - What is the best way to involve them?
   - the hazard types likely to be reported, and the design of a suitable reporting medium;
   - how to make the reporting mechanism accessible, easy to use and as intuitive as possible;
   - how can personnel most efficiently access and submit reports, given the available technology for on-line reporting.
b. Conduct hazard identification sessions. This will include:
   - review and validation of the current TAA hazard log
   - site safety walks;
   - conducting task analyses;
   - brainstorming sessions;
   - safety occurrence trend analysis;
   - facilitation of Structured What-if (SWIFT) workshops.
c. Document identified hazards. This includes the collation, storage and distribution of hazard data. This will be achieved by loading all hazards in an online hazard register in STEMS. This process will include:

- linkages between hazards, hazardous events, underlying causes and control measures where appropriate;
- a numbering system for hazards and controls to allow easy identification and tracking;
- sufficient information to support the subsequent steps of risk management;
- 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.
- a document control system to ensure hazards are routinely reviewed.

d. Incorporate hazard identification training and information into employee and contractor inductions, toolbox talks, and other relevant training programmes;

Element 5.1 - Reactive, proactive and predictive risk management

a. Review the TAA risk assessment process to determine if it is based where practicable, on a combination of reactive, proactive and predictive safety data collection and consultation with relevant stakeholders.

Element 5.2 - Risk assessment techniques

a. Update the risk assessment procedure for inclusion in the Operations Manual. The procedure will include:
   - risk matrix;
   - BowTie;
   - Quantitative Risk Assessment (QRA);
   - SWOT analysis (strength, weaknesses, opportunities and threats).

b. Incorporating the risk assessment training and information into employee and contractor inductions, toolbox talks, and other relevant training programmes;

Element 5.3 - Risk management process

a. Review the TAA risk management framework to ensure it includes processes for establishing the context, identifying, analysing, evaluating, treating, monitoring and communicating risk in compliance with AS/NZS ISO 31000:2009;
b. Update the risk management framework for inclusion in the TAA Operations Manual;
c. Identify key risks related to TAA operations. Document these risk in the electronic risk register;
d. Facilitate risk assessments to assess and analyse identified risks;
e. Identify and implement controls (treatment);
f. Establish a control monitoring program;
g. Communicate the risk assessment information to relevant stakeholders. This will include:
   - Filing all risk assessments in an online document management system, STEMS;
   - Distributing risk treatment plans to relevant personnel or work teams;
   - Communicating risk treatment pans at toolbox talks.

Element 6.1 - Internal safety investigations

a. Review the TAA safety investigation process to ensure it includes the requirements of AC12-2 Incident Investigation and NZ WHS legislation;
b. Update the internal investigation process for inclusion in the TAA Operations Manual.

Element 6.2 - Responsibility for conducting safety investigations

a. Identify personnel within the TAA organisation who will be responsible for safety investigations. These personnel will be independent of the operation. The duties and responsibilities for the management of internal safety investigations will 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.

Element 6.3 - Defining the scope of an investigation

a. update the safety investigation procedure for inclusion in the TAA Operations Manual. The procedure will include:
   - A policy that all safety reports will be investigated;
   - An investigation matrix to ensure that investigations are proportional to the perceived benefit in terms of potential for identifying systemic hazards and risks to the organisation.

Element 6.4 - Steps of an effective safety investigation

a. Update the safety investigation tool set for inclusion in the TAA Operations Manual. The tool set will include resources for:
   - Commencing a safety investigation;
   - Gathering evidence;
   - Interpreting the facts;
   - Developing recommendations;
   - Distributing and presenting the safety investigation report
   - Monitoring safety investigation outcomes.

Element 6.5 - Selecting and training safety investigators

a. Identify the training needs in relation to performing investigation activities. The following are essential qualities:
   - 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.
b. Facilitate safety investigation training for selected personnel;
c. Incorporate safety investigation training and information into employee and contractor inductions, toolbox talks, and other relevant training programmes.

Element 7.1 - Safety goals

a. Review the TAA goals to ensure they are consistent with corporate objectives and relevant to continuous safety improvement;
b. Update the TAA Safety Goals for inclusion in the TAA Safety System Manual.

Element 7.2 - Safety objectives

a. Review the TAA objectives to ensure they are consistent with safety goals and relevant to continuous safety improvement;
b. Update the TAA Safety objectives aligned with the TAA safety goals. These will be:
   - specific;
   - measurable
   - attainable/achievable;
   - realistic; and

- time-bound.

Element 7.3 - Safety performance targets

a) Review the current TAA safety performance targets;
b) In consultation with key stakeholders, update the safety performance targets. These performance targets will:
   - support those set in the CAA Safety Programme;
   - support the safety objectives and Acceptable Level of Safety Performance (ALoSP);
   - be based on safety risk;
   - take account of new or anticipated developments, both internal and external, that may affect the TAA operations, to measure TAA's response to those changes;
   - be realistic and take previous performance into account;
   - include benchmarking against well-performing organisations;
     the target achievement period or date should take safety risk into account.

Element 7.4 - Safety performance indicators

a) Review the current TAA safety performance indicators;
b) In consultation with key stakeholders, update the safety performance indicators. These performance indicators will include:
   - lagging indicators to measures of results of past activities. They will include:
     - Outcome indicators;
     - Output indicators.
   - leading indicators to measure forward-looking activities or predictive information.
     - Risk management indicators;
     - Hazard identification indicators;
     - Trend indicators.
   - Interactive indicators relate to the safety culture of the organisation.
     - Safety climate survey results;
     - Human factors indicators;
     - Communication and participation indicators.

Element 7.5 - Supporting systems and processes

a) Review the current TAA safety performance monitoring process;
b) In consultation with key stakeholders, update the safety performance monitoring procedure for inclusion in the TAA Operations Manual. Data will be collected to support safety performance indicators; this will come from the following sources:
   - 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.

c. Incorporate safety performance monitoring training and information into employee and contractor inductions, toolbox talks, and other relevant training programmes

Element 8.1 - Management of Change - General considerations

a. Review the current TAA change management process;
b. In consultation with key stakeholders, update the change management procedure for inclusion in the TAA Operations Manual. The change management process will include:
   - criticality of systems and activities;
   - stability of systems and operational environments;
   - past performance;
   - change leadership management.
d. Incorporate management of change training and information into employee and contractor inductions, toolbox talks, and other relevant training programmes.

Element 9 - Continuous Improvement of the SMS

a. Review the current TAA continuous improvement process;
b. In consultation with key stakeholders, update the continuous improvement procedure for inclusion in the TAA Operations Manual. The continuous improvement management process will include relevant inputs from:
   - safety performance indicators;
   - internal audit reports;
   - external audit reports;
   - management review of the SMS.

Element 10.1 - Developing a safety audit programme

a. Review the current TAA safety audit process to ensure it includes the following elements:
   - establishing an audit schedule;
   - setting the scope of the audit programme;
   - setting audit objectives;
   - determining the frequency of audits;
   - outlining audit methodology;
   - documentation of processes.

Element 10.2 - Conducting safety audits and monitoring outcomes

a. In consultation with key stakeholders, update the safety audit procedure for inclusion in the TAA Operations Manual. The continuous safety audit procedure will include a toolset and include the following steps:
   - planning the audit
   - conducting the audit
   - writing the audit report
   - disseminating and tracking audit findings

Element 10.3 - Selecting and training auditors

a. Identify personnel within the TAA organisation who will be responsible for safety auditing. These personnel will be independent of the operation. The duties and responsibilities for the management of safety auditing will be documented with consideration of:
   - acting in a strictly trustworthy and unbiased manner;
   - disclosure any potential conflicts of interest;
   - not to disclosing the findings or any other information gained during the audit to any third party unless authorised to do so;

- operational independence.

Element 11.1 - Achieving safety oversight

a. Review the current TAA safety oversight process to ensure it includes proactive and reactive management review elements

Element 11.2 - The management review process

a. In consultation with key stakeholders, update the management review procedure for inclusion in the TAA Operations Manual. The continuous management review procedure will include inputs from:
   - 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; and
   - planned SMS-related training and resources versus training achieved and resources fielded.

b. The output of the management review will 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.

Element 11.3 - Frequency of management reviews

a. Update the management review schedule. The schedule will consider:
   - anticipated changes or threats to TAA operations and SMS;
   - establishing a list of significant safety items that would trigger a management review between planned sessions.

Element 12.1 - Developing the content of the safety training programme

a. Review the current TAA safety training programme to ensure it includes:
   - training for the CEO in SMS, including safety responsibilities, oversight and governance and its relationship to the TAA's business strategy and other management systems;
   - training for senior persons, managers and line supervisors in how to effectively lead the development, implementation and ongoing sustainment of the SMS;
   - competency for organisational leadership and key safety personnel in the application of risk management practices;
   - training that provides competency for the senior person for the system for safety management (safety manager) in the management and administration of the SMS and risk management practices;
   - competency-based training for all personnel in the participation and use of the TAA's SMS that is appropriate to their safety-related duties.

b. Identify training resource requirements to ensure the SMS is understood and effectively applied across the different levels of the organisation, while building a strong safety culture.

c. Conduct a training needs analysis (TNA) to determine the appropriate training programme for all personnel. The TNA will:
   - Analyse the jobs;
   - Determine the skills/ knowledge gaps;

- Identify training solutions;
- Evaluating performance after training to determine if performance gaps still exist and the training solution selected was appropriate.

d. Determining the timeframes of the safety training programme
e. Develop the Safety training syllabus/engage third part trainer. The safety training syllabus will include:
   - 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.

Element 12.2 - Training programme and qualification documentation

a. Implement an electronic Safety, Training, Employee Management Systems database. This online system will support:
   - document library;
   - training records.

Element 12.3 - Who needs to undertake safety training

a. Update the training schedule. The schedule will consider:
   - personnel who will take part in the TAA's safety training programme appropriate for their safety responsibilities;
   - subcontractors who also require training on the use of the SMS or how to integrate their practices with the organisation's SMS.

Element 13.1 - What to communicate throughout the organisation

a. Review the current TAA internal safety communication process to ensure it includes:
   - 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;
   - 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.

Element 13.2 - What to communicate outside of the organisation

a. Review the current TAA internal safety communication process to ensure it includes:
   - 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.).

Element 13.3 - Methods of communication

a. In consultation with key stakeholders, review the TAA safety communication procedure for inclusion in the TAA Operations Manual. The safety communication process will include:
   - Active methods of communication
     - regular safety-related meetings;

    - senior management conveying strategic safety information, goals and objectives;
    - personnel informing management on safety issues;
    - Team briefings and 'road show' initiatives.
- Passive methods of communication
    - the publication of an organisational safety magazine or newsletter;
    - web-based presentation;
    - forums;
    - emails.

Element 13.4 - Safety promotion

a. In consultation with key stakeholders, review the TAA safety promotion procedure for inclusion in the TAA Operations Manual. The safety promotion process will include:
    - why SMS procedures are in place;
    - what safety management means;
    - why particular safety actions are taken.

Element 13.5 - How to promote safety effectively

a. Update the safety promotion programme. The programme will include:
    - Spoken word (safety talks, pre-start briefs);
    - Written word (internal safety alerts, information, newsletters;
    - Electronic media (third party safety alert).