

# New Zealand Aviation State Safety Programme

July 2014



New Zealand Government

# Table of Contents

Forward .....	ii
<b>Introduction</b> .....	<b>1</b>
<b>1. State Safety Policy and Objectives</b> .....	<b>3</b>
1.1. State safety legislative framework.....	3
1.2. State safety responsibilities and accountabilities.....	5
1.3. Accident and incident investigation.....	8
1.4. Regulatory policy .....	8
<b>2. State Safety Risk Management</b> .....	<b>10</b>
2.1. Safety requirement for a service provider’s SMS .....	10
2.2. Agreement on service providers’ safety performance .....	11
<b>3. State Safety Assurance</b> .....	<b>12</b>
3.1. Safety oversight .....	12
3.2. Safety data collection, analysis and exchange.....	13
3.3. Safety data-driven targeting of oversight of areas of greater concern or need.....	15
<b>4. State Safety Promotion</b> .....	<b>17</b>
4.1. Internal training, communication and dissemination of safety information .....	17
4.2. External training, communication and dissemination of safety information .....	17

## Foreword

Aviation in New Zealand has steadily grown and diversified, a trend that is expected to continue into the future. This presents significant opportunities for innovation, such as new technologies and new types of aircraft, and to make a greater contribution to our economy. With these opportunities, however, come some significant challenges to ensuring that we continue to maintain and further improve aviation safety and security.

Recognising these challenges and presenting a way to help meet them, the International Civil Aviation Organization (ICAO) requires its member States to implement a State Safety Programme. The Programme is a cohesive framework by which a country can effectively and efficiently manage its aviation safety and security. As a member State of the ICAO, New Zealand is expected to implement a State Safety Programme.

The State Safety Programme described here is the roadmap for maintaining and improving aviation safety and security in New Zealand, through:

- the legislative framework and responsible Authorities
- formalised safety management practices
- assurance of safety through effective intelligence and analysis, and
- education, training, promotion and communication of safety issues.

The Programme is an extensive system that will continue to evolve over time. Consequently, this document will also evolve to accurately reflect New Zealand's aviation safety framework.

New Zealand will embrace the opportunities and challenges of the continual development that characterises aviation. We will do so based on a robust, internationally respected safety and security regulatory system.



**Graeme Harris**  
Director Civil Aviation

## Introduction

The New Zealand Government policy direction for transport is contained in *Connecting New Zealand: A summary of the Government's policy direction for transport*.<sup>1</sup> The Government's overall transport policy objective is:

*An effective, efficient, safe, secure, accessible and resilient transport system that supports the growth of our country's economy, in order to deliver greater prosperity, security and opportunities for all New Zealanders.*

Aviation is a key component of the integrated transport system. New Zealand maintains some of the safest skies in the world; however like similar States has an increasing volume of traffic and an increasing diversity of aviation service providers.<sup>2</sup> *Connecting New Zealand* provides clear guidance that the aviation sector must respond to technological changes and changing international safety and security standards to continue to ensure safety in the face of this growth.

In the international context, New Zealand is a founding signatory to the Convention on International Civil Aviation 1944. The Convention is administered by the International Civil Aviation Organization (ICAO), a specialist agency of the United Nations. As a member State in ICAO, New Zealand has an obligation to secure, to the highest degree practicable, compliance with international civil aviation standards set by ICAO.

Annex 19 to the Convention brings together previously existing requirements around safety management for contracting States to establish a State Safety Programme (SSP). The SSP is ICAO's framework for States to co-ordinate their risk-based regulatory oversight and achieve an acceptable level of safety in civil aviation. An SSP is intended support a risk-based aviation system and the implementation of Safety Management Systems (SMS) by service providers. This document describes New Zealand's SSP.

The SSP includes specific safety activities New Zealand undertakes to support the achievement of its responsibilities for safe and efficient aviation. The Plan combines the elements of both the traditional prescriptive- and the modern performance-based approaches to safety management. In line with ICAO's framework, there are four primary components to the SSP:

- State safety policy and objectives
- State safety risk management
- State safety assurance, and
- State safety promotion.

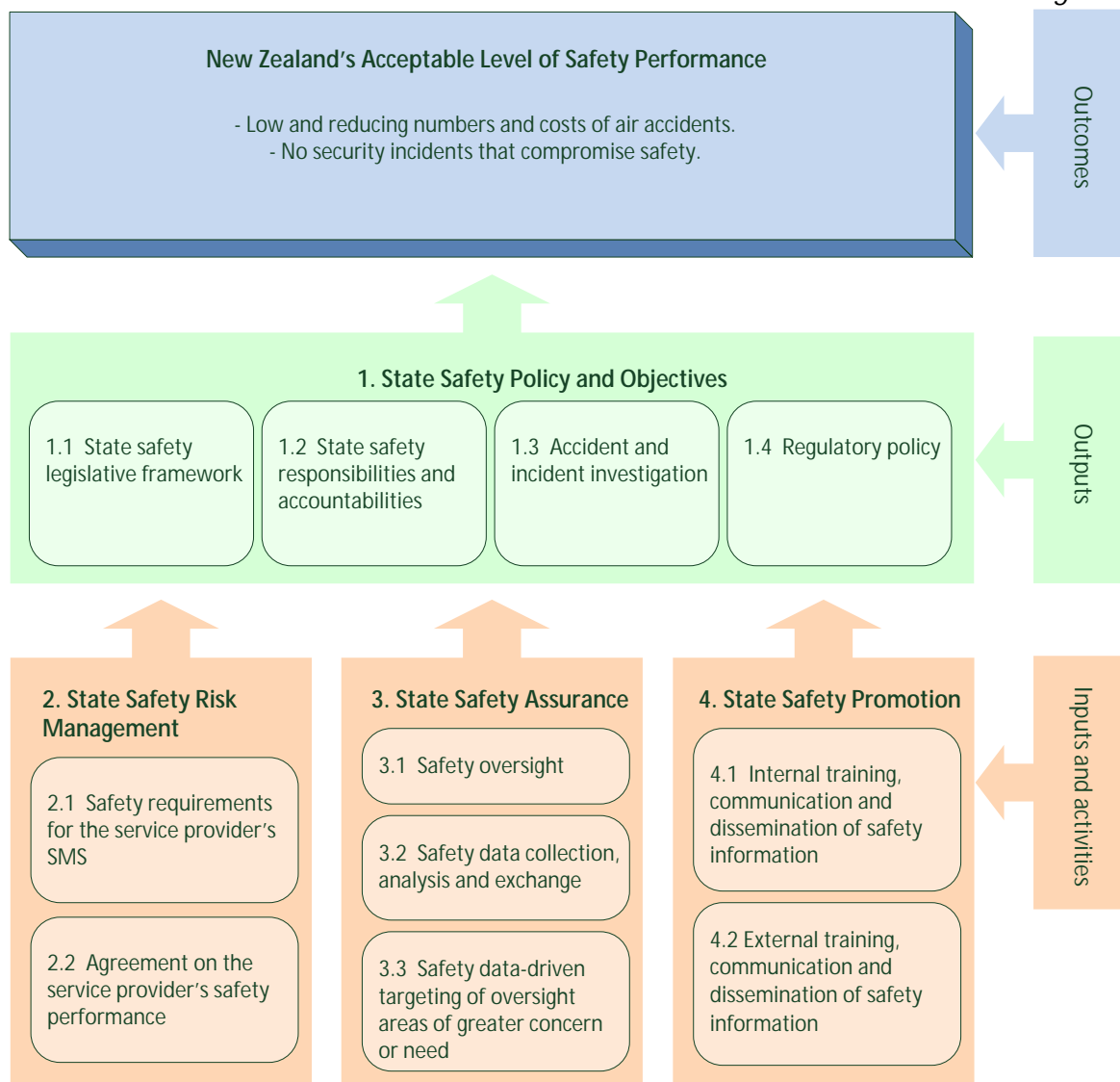
This document is structured to align with this framework. Figure 1 below depicts the relationship of these components to New Zealand's Acceptable Level of Safety Performance (ALoSP).

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<sup>1</sup> *Connecting New Zealand: A summary of the government's policy direction for transport*, New Zealand Government, 2011 (<http://www.transport.govt.nz/ourwork/keystrategiesandplans/connectingnewzealand>).

<sup>2</sup> *New Horizons: A report on New Zealand's Aviation Industry*. Prepared for New Zealand Trade and Enterprise by Knotridge Ltd, 2010.

Figure 1



The monitoring and oversight framework described in this document guides the establishment and maintenance of the SMS that aviation service providers establish in New Zealand. An SMS is the systematic approach to managing safety that is recommended by ICAO for aviation organisations.

# 1. State Safety Policy and Objectives

New Zealand's desired outcome for civil aviation is:

*Safe flight for social connections and economic benefits.*

Safe flight is realised through:

- low and reducing numbers of accidents
- reducing social cost of accidents (death, injury and property loss valuation), and
- no airside or in-flight security incidents that compromise safety.

To achieve this, New Zealand, led by the Civil Aviation Authority of New Zealand (CAA), will develop and implement effective strategies, regulatory frameworks and processes to ensure that aviation activities perform to the highest level of safety possible. To do so, New Zealand will take a risk-based approach to aviation safety regulation, encourage and support New Zealand service providers' SMS and implement ICAO's Standards and Recommended Practices (SARPs) to the degree practicable.

## 1.1. State safety legislative framework

### 1.1.1. *Convention on International Civil Aviation 1944*

The international standardisation and safety of civil aviation is the primary purpose of the Convention on International Civil Aviation 1944 (Convention) and its administering body, the ICAO.

Articles 37 and 38 of the Convention require member States to adopt the international Standards and Recommended Practices (SARPs) made by ICAO to the extent practicable. As a founding signatory to the Convention, New Zealand has an obligation to secure, to the highest degree possible, compliance with these SARPs. New Zealand implements ICAO SARPs wherever they are relevant in the New Zealand context and justified by robust cost-benefit economic analyses.

### 1.1.2. *New Zealand civil aviation legislation*

The Civil Aviation Act 1990 (the Act) is New Zealand's primary aviation legislative document. The Act establishes the rules of operation and divisions of responsibility within the civil aviation system in order to promote aviation safety, and ensures that New Zealand's obligations under international aviation agreements are implemented.

The New Zealand Minister of Transport makes Civil Aviation Rules (Rules) that define the minimum standards for entering and operating within the civil aviation system. The Ministry of Transport contracts the CAA to develop Rules and undertake consultation on these with the aviation community. Rules are developed from needs identified by the CAA or the aviation community. For example, Rules take into account changes to ICAO SARPs, recommendations from Transport Accident Investigation Commission (TAIC) investigations, CAA accident and

incident investigations, CAA safety audits, petitions submitted by industry service providers, and Coroner's Reports.

The Director of Civil Aviation has powers conferred by the Act, which, when applied to a specific case, are performed independently of both the Minister of Transport and the Authority (the Civil Aviation Authority Board). These powers include controlling entry and exit from the aviation system, monitoring performance, enforcing compliance with the Act and Rules, and approving emergency Rules where circumstances require immediate action.

Entry and exit from the aviation system is controlled through the issue of aviation documents by the CAA. These include a pilot's licence, air operator certificate, aircraft registration, engineer's licence, air traffic control licence and aerodrome certificate. These documents are granted only after applicants have demonstrated that they meet the standards set in the Act and Rules.

In addition to the powers of the Minister, Authority and Director, the Act places clear safety responsibilities on aviation document holders themselves. Section 12 of the Act outlines the requirement for document holders to establish and follow a management system that ensures compliance with safety standards. This must include the provision of resources to ensure compliance, and provide training and supervision for employees.

### *1.1.3. Aviation security*

Part 8 of the Civil Aviation Act outlines the duties and responsibilities for aviation security in New Zealand, including for the prevention of crime against the Aviation Crimes Act 1972. The Aviation Crimes Act gives effect to New Zealand's commitments and responsibilities to various international agreements for the prevention of crimes against international air services.<sup>3</sup>

New Zealand has a National Aviation Security Programme in accordance with the Convention, Standard 3.1.1 of Annex 17: Security. This programme consists of legislation, regulations (including Rules), and practices and procedures to "safeguard civil aviation operations against acts of unlawful interference." This takes into account the safety, regularity and efficiency of flights. This framework contributes to New Zealand achieving the eight critical elements required and audited by ICAO for effective aviation security oversight.

### *1.1.4. Other legislation placing additional specific duties on the CAA*

#### Health and Safety in Employment Act 1992

New Zealand's Health and Safety in Employment Act 1992 is intended to promote the prevention of harm to persons at work or in the vicinity of a workplace. The Health and Safety in Employment Act applies to aviation related workplaces. The CAA is designated as the Health and Safety in Employment regulator for aircraft in operation under section 28B of the Health and Safety in Employment Act.

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<sup>3</sup> The Hague Convention for the Suppression of Unlawful Seizure of Aircraft; the Montreal Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation; the Montreal Protocol for the Suppression of Unlawful Acts of Violence at Airports Servicing International Civil Aviation, and the Tokyo Convention on Offences and Certain other Acts Committed on Board Aircraft.

### Hazardous Substances and New Organisms Act 1996

The New Zealand Hazardous Substances and New Organisms Act 1996 aims to “protect the environment, and the health and safety of people and communities, by preventing or managing the adverse effects of hazardous substances and new organisms.”

Section 97 of this Act places a responsibility upon the Director of Civil Aviation to enforce this Act “in or on any aircraft.” The CAA employs warranted officers to undertake this function.

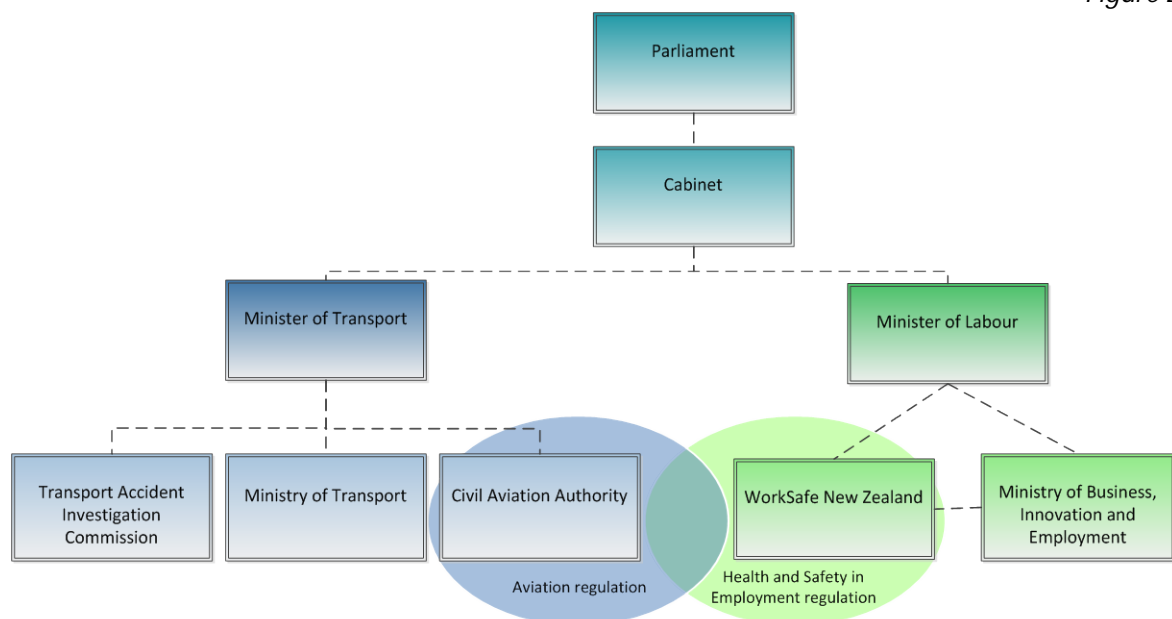
### *1.1.5. Transport Accident Investigation Commission Act*

The Transport Accident Investigation Commission Act 1990 establishes the Transport Accident Investigation Commission (TAIC). The principal purpose of the TAIC is to determine the circumstances and causes of accidents and incidents with a view to avoiding similar occurrences in the future, rather than to ascribe blame to any person, in accordance with ICAO Annex 13.

## **1.2. State safety responsibilities and accountabilities**

Safety oversight of New Zealand’s aviation sector can be simply depicted as follows:

*Figure 2*



### *1.2.1. Minister of Transport and Ministry of Transport*

The New Zealand Minister of Transport oversees New Zealand’s transport sector. The Minister reports to Cabinet and Parliament for significant policy and regulatory matters involving the transport sector.



The New Zealand Ministry of Transport is the New Zealand government's principal transport advisor, focusing primarily on providing policy and legislative advice and support to the Minister of Transport and government. The Ministry's aims are to:

- improve the overall performance of the transport system
- improve the performance of transport Crown entities, including the CAA and the TAIC, and
- achieve better value for money for the government from its investment in the transport system.

The Ministry plays a key role in representing New Zealand's transport interests internationally. The Ministry is also largely responsible for the economic regulation of international air transport and negotiating New Zealand's bilateral air services agreements.

The Ministry and the CAA have a close working relationship to ensure aviation safety and security in New Zealand.

### *1.2.2. Civil Aviation Authority of New Zealand*

The Civil Aviation Authority (CAA) is New Zealand's aviation regulator. The CAA carries out accident and incident investigations, certification, inspection, auditing and other activities, and collates this material to establish an industry-wide safety picture. This becomes the basis of safety initiatives ranging from education campaigns to increased monitoring and regulatory action.

In collaboration with the New Zealand Ministry of Transport, the CAA produces and maintains New Zealand's SSP. The CAA will regularly review the SSP to ensure it reflects changes and initiatives at the domestic and global levels.

The CAA is governed by a five-member board appointed by the Minister of Transport to represent the public interest in civil aviation. The Authority appoints the CAA's chief executive – the Director of Civil Aviation. Certain functions and powers are delegated to the Director by the Authority.

The CAA is also designated by the Prime Minister as the New Zealand Health and Safety in Employment regulator for aircraft in operation.<sup>4</sup>

### *1.2.3. Aviation security*

The details of New Zealand's national aviation security programme are contained in the National Aviation Security Programme Reference Document. This Document provides information on the security responsibilities and accountabilities of various State agencies, including the CAA, New Zealand Police and others, and industry service providers. The Document is maintained by the CAA and provided under appropriate controls to relevant industry service providers and wider Government stakeholders. The security sensitive nature of some of its content precludes its wider public release. Not all elements of the State Safety Programme are directly transferable to or relevant in a security context.

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<sup>4</sup> [http://www.caa.govt.nz/HSE-CAA/gazette\\_notice.pdf](http://www.caa.govt.nz/HSE-CAA/gazette_notice.pdf)

The New Zealand Aviation Security Service (AvSec), a business unit of the CAA, is the aviation security service provider in New Zealand. AvSec is an aviation document holder under Part 140 (Aviation Security Service Organisations) of the Civil Aviation Rules and is responsible for, among other things:

- screening passengers and their carry-on baggage
- screening checked baggage
- screening of airport workers, and
- managing the Airport Identity Card system for restricted areas.

#### *1.2.4. Transport Accident Investigation Commission*

The TAIC<sup>5</sup> was established by the Transport Accident Investigation Commission Act 1990. The TAIC's principal purpose is:

*to determine the circumstances and causes of accidents and incidents with a view to avoiding similar occurrences in the future, rather than to ascribe blame to any person.*

The TAIC investigates marine, rail and air accidents and incidents in New Zealand where it considers there is, or could be, significant implications for safety or if it believes it can make findings and recommendations that can improve safety.

The TAIC promotes the learning from its investigations and other work to influence transport safety. It fulfils New Zealand's obligations under Annex 13 of the Convention for an independent aircraft accident and incident investigation body. The TAIC Act also sets the requirements for the disclosure and admissibility of specified accident or incident investigation records, in particular, on-board recorders.

#### *1.2.5. Ministry of Business, Innovation and Employment and WorkSafe New Zealand*

The New Zealand Ministry of Business, Innovation and Employment (MBIE) is responsible for administering New Zealand's Health and Safety in Employment legislation and regulations. Many workplace health and safety regulatory functions are designated to some sectors with specialist regulatory agencies, including the CAA for aviation (for aircraft in operation).

In December 2013, WorkSafe New Zealand was established to regulate health and safety at work practices. WorkSafe and the CAA are developing their relationship to ensure workplace safety for the aviation sector is regulated efficiently and effectively. WorkSafe is also establishing a centralised, national database of health and safety information and reports to ensure improved transparency and regulation.

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<sup>5</sup> <http://www.taic.org.nz>

### **1.3. Accident and incident investigation**

Both the TAIC and the CAA conduct aviation accident and incident investigations. Regardless of who conducts the investigation, the ultimate aim is to improve the safety performance of the aviation system.

#### *1.3.1. TAIC investigations*

To improve transport safety, the TAIC promotes learnings from its investigations and wider work. It can make recommendations aimed at resolving safety issues arising from its inquiries. These may be directed at the parties involved as well as the regulator (the CAA for aviation). TAIC also monitors the implementation of its recommendations in a live online database. Findings, recommendations, safety actions taken and key lessons learnt are published in its inquiry reports, which are available on its website. Reports with potential application beyond New Zealand are given to the appropriate international body. TAIC's work practices are subject to periodic audit by ICAO.

#### *1.3.2. CAA investigations*

The CAA investigates civil aviation accidents and incidents in its capacity as the responsible authority.

Safety investigations are carried out alongside service providers to find the root causes of occurrences, and make recommendations on improving safety. Reports of these investigations are made public to enable other service providers to identify any similar risks they may have and improve their safety performance.

The CAA also conducts separate investigations of alleged or suspected breaches of the Rules and the Act. If a safety investigation shows a service provider has deliberately endangered people or property, the CAA may consider law enforcement or other regulatory action.

As the designated Health and Safety in Employment regulator for aircraft in operation, the CAA undertakes health and safety investigations and acts on the results when that is necessary and appropriate.

Where appropriate for the situation, the CAA works alongside other agencies involved in an accident or incident investigation, for example New Zealand Search and Rescue, the New Zealand Police and TAIC.

### **1.4. Regulatory policy<sup>6</sup>**

New Zealand recognises that the majority of people and organisations involved in civil aviation want to operate safely and comply with their obligations. The aviation system will achieve its

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<sup>6</sup> The ICAO framework uses the term "Enforcement Policy" whereas in the New Zealand context the term Regulatory Policy is a more appropriate description of the activities envisaged by ICAO. In the New Zealand context, enforcement is a specific legal regulatory tool for achieving compliance.

Acceptable Level of Safety Performance (ALoSP) when all organisations and individuals accept their responsibility for safety, voluntarily comply with aviation safety standards, and adopt a systematic approach to safety management. The CAA's primary regulatory approach, on behalf of New Zealand, is to encourage and support such attitudes and behaviour on behalf of the public.

The CAA's approach to aviation regulation is based on the premise that the purpose of regulatory intervention is to meet the safety and security expectations of the public. The CAA operates under a Regulatory Operating Model<sup>7</sup> that outlines the principles underpinning its risk-based regulatory approach. The Model applies to all activities in the civil aviation system, enabling the CAA to take a holistic and coordinated approach to ensuring aviation safety by utilising the most appropriate means giving consideration to the facts and circumstances of a particular safety event.

The regulatory tools available to the CAA to address risks and ensure safety include:

- education and safety promotion
- certification, monitoring and investigation
- administrative actions
- regulatory enforcement action,
- policy and rule development, and<sup>8</sup>
- other activities as appropriate.<sup>8</sup>

The Civil Aviation Act enables the CAA to take both administrative action and enforcement action to ensure safety. Administrative action includes the ability for the Director of Civil Aviation to amend, revoke or place conditions on service providers' operating certificates and/or individual documents. Enforcement action includes the ability to issue formal warnings or notices, or take prosecution action against aviation participants.

The CAA's regulatory intervention decisions, including whether to take prosecution action, are based on the following principles:

- proportionality
- consistency, and
- the CAA demonstrating reasonable judgement.

#### *1.4.1. Security*

New Zealand's aviation security system also operates under a risk-based approach consistent with the provisions of Annex 17: Security, as set down by the State National Aviation Security Programme. There is some overlap with elements of the regulatory policy described above. However, there are some instances where they differ in acknowledgment of additional considerations that need to be taken into account when maintaining a State level programme aimed at preventing deliberate criminal acts.

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<sup>7</sup> [http://www.caa.govt.nz/Policy/Regulatory\\_Op\\_Model.pdf](http://www.caa.govt.nz/Policy/Regulatory_Op_Model.pdf)

<sup>8</sup> [http://www.caa.govt.nz/Policy/Use\\_Regulatory\\_Tools.pdf](http://www.caa.govt.nz/Policy/Use_Regulatory_Tools.pdf)

## 2. State Safety Risk Management

New Zealand already has a high level of aviation safety and security. To further improve safety in the face of modern challenges, a systematic and all-encompassing approach to managing safety risks is needed – Safety Management Systems.

### 2.1. Safety requirement for a service provider’s Safety Management System

SMS is ICAO’s recommended formal framework for risk and safety management in aviation. An SMS is intended to be a comprehensive and scalable safety system for service providers that can incorporate other management systems (such as employee health and safety, and hazardous substances).

Civil Aviation Advisory Circular (AC) 00-4 provides guidance to service providers on what the CAA considers to be a satisfactory SMS in the New Zealand context.<sup>9</sup> Table 1 below demonstrates how the structure of SMS in New Zealand aligns with ICAO’s SMS structure.

Table 1

NZ SMS Structure	ICAO SMS Structure
	<b>1. Safety Policy and Objectives</b>
1. Safety policy and accountability	1.1 Management commitment and responsibility 1.2 Safety accountabilities 1.3 Appointment of key safety personnel
2. Coordinated Emergency Response Planning	1.4 Coordination of emergency response planning
3. Development, control and maintenance of safety management documentation	1.5 SMS documentation
	<b>2. Safety risk management</b>
4. Hazard identification	2.1 Hazard identification
5. Risk Management	2.2 Safety risk assessment and mitigation
	<b>3. Safety assurance</b>
6. Safety investigation	3.1 Safety performance monitoring & measurement
7. Monitoring and measuring performance	
8. Management of change	3.2 The management of change
9. Continual improvement of the SMS	3.3. Continuous improvement of the SMS
10. Internal audit programme	
11. Management review	
	<b>4. Safety promotion</b>
12. Safety training and education programme	4.1 Training and education
13. Communication of safety critical information	4.2 Safety communication

Establishment of SMS for New Zealand service providers is currently voluntary and the CAA actively encourages its implementation, and some service providers have implemented SMS to a certain extent. A range of resources specific to New Zealand have been developed to assist service providers with voluntary adoption of SMS, including an SMS implementation strategy.<sup>10</sup>

<sup>9</sup> [http://www.caa.govt.nz/Advisory\\_Circulars/AC000\\_4.pdf](http://www.caa.govt.nz/Advisory_Circulars/AC000_4.pdf)

<sup>10</sup> <http://www.caa.govt.nz/SMS/index.htm>

In 2013, the CAA consulted on whether to implement a Rule requiring a risk management approach to safety (e.g. SMS) in New Zealand. The CAA is working with the Ministry of Transport to progress this consideration. If the New Zealand government agrees to requiring risk management frameworks, there will be a transition period before full compliance is required. New entrants to the civil aviation system would be expected to fully comply with SMS from initial entry certification.

## **2.2. Agreement on service providers' safety performance**

Due to the maturity of the New Zealand aviation community, safety responsibility is shared between the regulator and service providers. The CAA will work with service providers to ensure the safety objectives of their SMS plans align with and support New Zealand's ALoSP (see section 3.2.1 below).

Service providers' operating expositions set out their safety goals and practices. These are assessed and approved by the CAA, who then conducts regular monitoring and surveillance to ensure expositions are met. Expositions reflect the level of risk in a service provider's operation as well as the complexity of their organisation, as does the CAA's oversight of that organisation.

It is up to the organisation to determine how they will achieve the agreed safety goals and manage their safety risks, subject to CAA approval and oversight as appropriate. The service provider's safety goals and practices will also require revision and review on a regular basis as goals are achieved or new hazards and risks are identified, and to ensure alignment to safety indicators.

### 3. State Safety Assurance

New Zealand’s aviation safety and security oversight system is not simply focused on the avoidance of accidents and incidents, but the development, implementation and monitoring of proactive safety practices and the maintenance of public confidence in the aviation industry.

A risk-based system, including the use of SMS, operates on mutual responsibility and accountability. Service providers have more responsibility than previously to focus on safety throughout their organisation’s structures, policies and procedures. The CAA, on behalf of the New Zealand government, maintains its role in assuring system-wide safety, including safety and security oversight, and data collection, analysis and exchange.

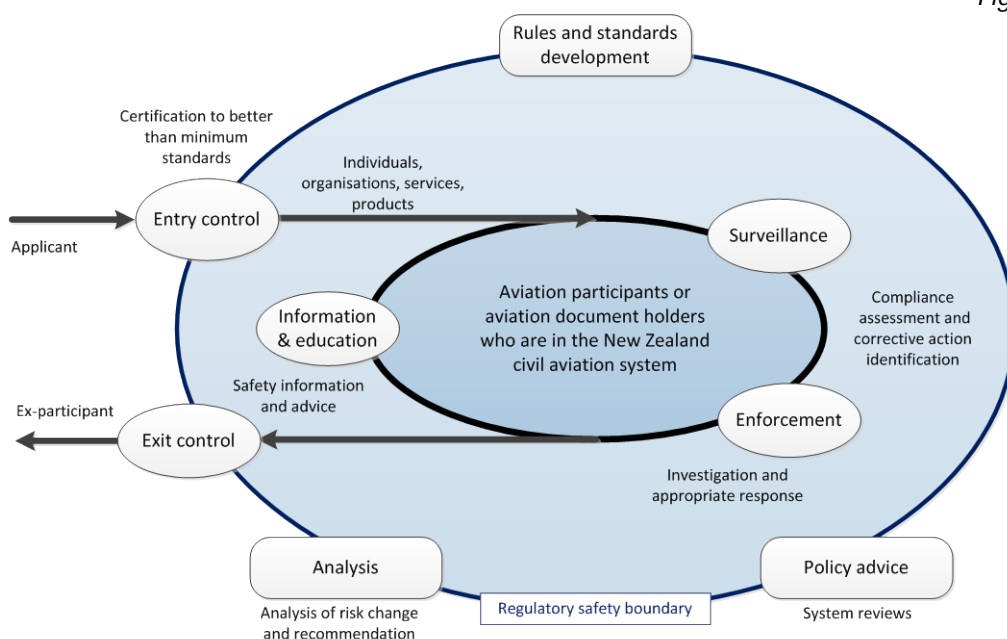
#### 3.1. Safety oversight

New Zealand is subject to ICAO’s Universal Safety Oversight Audit Program-Continuous Monitoring Approach (USOAP-CMA). This programme enables ICAO to take a harmonised and consistent approach to monitoring New Zealand’s safety oversight capabilities on an ongoing basis. To meet the standards of the USOAP-CAM, the CAA’s safety oversight systems includes:

- ensuring appropriate aviation legislation and regulations
- technical personnel qualification and training
- technical guidance, tools and the provision of safety critical information
- enhancing the collection, use and exchange of safety information
- robust licensing, certification, authorisation and approval obligations
- continuous improvement of a risk-based surveillance system, and
- proportionate, risk-based resolution of safety concerns.

Figure 3 below illustrates how the CAA oversees safety during the lifecycle of the service provider.

Figure 3



## 3.2. Safety data collection, analysis and exchange

Safety information is required to measure the performance of both service providers and industry sectors in achieving New Zealand's Acceptable Level of Safety Performance (ALoSP). Additionally, it allows the CAA to identify emerging safety trends, share findings with service providers, and then act in the most appropriate way to prevent accidents or incidents and maintain public confidence.

### 3.2.1. Acceptable Level of Safety Performance

ICAO Standards require the establishment of an ALoSP both as part of a State's SSP and as part of operators' SMS plans. An ALoSP is defined by ICAO as:

*the minimum level of safety performance of civil aviation in a State, as defined in its State safety programme, or of a service provider, as defined in its safety management system, expressed in terms of safety performance targets and safety indicators.*

An ALoSP is designed to be the mechanism to verify the operational performance of a SSP or SMS. There are three key elements to define an ALoSP:

- *safety performance indicators* – short-term, measurable safety performance outcomes of an aviation operation or a sector of the industry.
- *safety performance targets* – long-term, strategic measurable safety performance outcomes of an aviation operation or a sector of the industry.
- *safety requirements* – the tools and means to achieve the safety performance indicators and targets of a SSP, including operational procedures, technology, systems and programmes.

ICAO guidance states that an ALoSP should be expressed by multiple indicators and targets, as well as by safety requirements in the form of remedial actions. Although ICAO provides significant guidance on the concept of an ALoSP, there remain uncertainties amongst States as to what constitutes an ALoSP and how to establish one.

In New Zealand, the ALoSP has two overarching goals:

- low and reducing numbers and costs of air accidents, and
- no security incidents that compromise safety.

The CAA's Statement of Intent provides safety performance targets and indicators for the different sectors of New Zealand aviation.<sup>11</sup>

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<sup>11</sup> <http://www.caa.govt.nz/publicinfo/annualrepanandprof.htm>



### 3.2.2. Safety data management

A key objective of the CAA is to improve the targeting of its safety oversight and the effectiveness of its interventions. This means greater use of safety information and risk assessments to target risks at the appropriate level and through the appropriate means.

The legislation requires mandatory reporting by service providers on a wide range of accidents and incidents, including aircraft and airspace occurrences, facility occurrences, defects, bird incidents, and workplace health and safety incidents. The data can be submitted to the CAA by any method. There is an established electronic reporting system in addition to email, phone calls and paper forms. Further safety information is captured during safety and regulatory investigations, and during routine audit and surveillance activity. Members of the public can also report concerns or complaints online or by phone.

Data and information is processed by the CAA and recorded in an electronic system. The data is presented in the Aviation Safety Report every six months for CAA use. A public summary of this report, the Aviation Industry Safety Update, is available on the CAA website, as is an interim version, the Aviation Safety Summary Report, published quarterly. A weekly report of the most recent accidents and more detailed reports on specific fatal accidents are also maintained on the CAA website. The CAA also publishes quarterly Bird Hazard Reports, a version of which is provided to aerodrome operators with more detail specific to their aerodrome.

The CAA's regulatory approach is based on the principles outlined in its Regulatory Operating Model (see section 1.4 above). This describes how the CAA is unlikely to take enforcement action against those who fully report details of accidents and incidents in a timely manner. Where accidents and incidents are fully reported, appropriate regulatory tools may be used to provide immediate protection of the public, aircraft and participants in the aviation system and, where applicable, to address any likely future non-compliance.

Under Rule Part 12, reported safety information may only be used for prosecution if the information reveals an act or omission that caused unnecessary danger to another person or any property, if false information is submitted, or when the Authority is obliged to release the information due to a statutory requirement or Court order. The CAA's *Collection and Use of Safety Information Policy*<sup>12</sup> and *Use of Regulatory Tools Policy*<sup>13</sup> provide further details about how the CAA responds to safety information.

Section 27 of the Civil Aviation Act requires the CAA to notify the TAIC of accidents and incidents reported to the CAA where it is an aircraft accident or is a serious incident. The TAIC Act 1990, section 10, requires TAIC to notify the CAA of every civil aviation accident or incident reported to TAIC and that is either outside of TAIC's jurisdiction or that TAIC has decided it will not investigate. This enables the CAA to consider whether it will investigate the accident or incident.

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<sup>12</sup> [http://www.caa.govt.nz/Policy/Collection\\_and\\_Use\\_of\\_Safety\\_Info.pdf](http://www.caa.govt.nz/Policy/Collection_and_Use_of_Safety_Info.pdf)

<sup>13</sup> [http://www.caa.govt.nz/Policy/Use\\_Regulatory\\_Tools.pdf](http://www.caa.govt.nz/Policy/Use_Regulatory_Tools.pdf)

### 3.3. Safety data-driven targeting of oversight of areas of greater concern or need

The ability to interpret information and analyse risk also needs to be enhanced to inform intervention decisions. The effective allocation of the CAA's regulatory resources will be determined by the levels of risk involved in each sector, service provider or issue.

Good information and analysis is the foundation for good interventions. This will require the CAA to improve its collection of information and to look as wide as possible for sources that may indicate developing safety issues. Analysis of the underlying causes of a safety issue allow for an intervention to be effective and sustainable, instead of simply addressing the symptoms. Rule development is just one tool for consideration alongside effective use of education, training, surveillance and enforcement.

The CAA collects and analyses safety information, providing input and support across the organisation and to other relevant agencies to support safety data-driven identification and resolution of issues.

#### 3.3.1. Risk profiles

In line with the New Zealand Civil Aviation Act 1990, the CAA is responsible for the continual oversight of New Zealand's civil aviation system to ensure the system's continued safety. Implementation of surveillance processes, such as inspections and audits, proactively ensure that aviation service providers meet their safety obligations.

The CAA's surveillance programme<sup>14</sup> is a comprehensive system of both quantitative and qualitative inputs that provides essential information on the safety risk and compliance of service providers. Information from surveillance activities is recorded to develop an accurate profile of service providers. Profiles reflect all of the information the CAA holds about each service provider.

In conducting surveillance, the CAA assesses a variety of organisational categories aimed at identifying areas of higher risk. A risk profile is then developed which will inform the CAA's overall surveillance programme and the scope of individual audits. In this way, the CAA can identify a service provider's key processes on which to focus regulatory efforts.

#### 3.3.2. Sector Risk Profiles

The CAA uses Sector Risk Profiles<sup>15</sup> to examine the underlying influences on safety with a specific aviation sector. Sector Risk Profiles use quantitative and qualitative methods to capture the knowledge, experience and perceptions of as many participants as possible within a particular sector. This results in expressions of risk statements that are specific to that sector.

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<sup>14</sup> [http://www.caa.govt.nz/Surveillance/Surveillance\\_home.htm](http://www.caa.govt.nz/Surveillance/Surveillance_home.htm)

<sup>15</sup> [https://www.caa.govt.nz/Safety\\_Reports/sector\\_risk\\_profiles.html](https://www.caa.govt.nz/Safety_Reports/sector_risk_profiles.html)

The methodology of Sector Risk Profiles is based on factors such as safety trends, wider analysis of the aviation industry, the impact of new technologies, emerging performance trends, and the consequences of an accident or incident in a physical, social and economic context.

Sector Risk Profiles are intended to enable service providers to identify clear risk statements that apply to them and determine what they can do to minimise that risk. Addressing individual risk elements in a sector can improve overall safety.

## 4. State Safety Promotion

Training and education in the aviation system is as important for changing behaviour as enforcement and surveillance.

### 4.1. Internal training, communication and dissemination of safety information

All CAA staff undertake training and development relevant to their individual needs to meet CAA's capability requirements. The type of technical or non-technical training is commensurate with the individual's role. There are also common training programmes that encompass a wide range of groups within CAA, including for requirements for the introduction of Safety Management Systems. Training is an on-going exercise to continuously improve the CAA's capabilities.

The Safety Reports discussed in section 3.2 above are also disseminated internally through the CAA for education purposes. Other safety information is disseminated through findings from safety investigations and ad hoc seminars on topical issues.

### 4.2. External training, communication and dissemination of safety information

Education and awareness of safety risks is communicated to aviation service providers through a number of means, including safety related seminars, courses, publications, safety reports and Aviation Safety Advisers.

#### 4.2.1. Aviation Safety Advisers

The CAA's Aviation Safety Advisers provide broad safety advice to industry service providers. ASAs are:

- not auditors, inspectors, approvers or enforcers
- assigned geographic areas throughout New Zealand, within which they develop contacts with aviation businesses and recreational service providers
- provide a CAA link and perspective at industry user-group meetings and give broad advice on the application of Rules
- refer industry views and problems to the appropriate CAA technical staff and management, and
- heavily involved with developing and conducting the CAA's safety courses and seminars.

Industry and individuals can rely on advice from their ASA as being the up-to-date CAA view.

#### 4.2.2. Safety publications

In addition to the Safety Reports discussed in section 3.2 above, a number of public safety products, predominately targeted at the General Aviation sector, are published by the CAA. These include topical safety articles in the monthly *Vector* magazine, promotional posters and brochures. More in-depth safety issues, such as complex airspace or flying techniques in hazardous areas are described in Good Aviation Practice booklets.

The products are provided free of charge in the interest of safe aviation practice.

The CAA's Statements of Intent and Annual Reports also provide information about New Zealand's aviation safety goals and outcomes.<sup>16</sup>

Airways Corporation is a New Zealand state-owned enterprise that serves as New Zealand's air navigation service provider. Airways, under contract to the CAA, publishes a range of Aeronautical Information Publications (AIP), which includes air navigation routes and aerodrome information.

The TAIC publishes Aviation Occurrence Reports detailing its investigations, findings and recommendations.<sup>17</sup>

The Ministry of Transport also produces a number of publications providing information and detail about New Zealand's transport policies and goals.

#### *4.2.3. Safety programmes*

The CAA runs a number of safety programmes, courses and seminars to educate the aviation sector, share knowledge and experiences, and promote relationships.

The CAA also runs safety programmes such as the Aviation Safety Co-ordinator Course and AvKiwi. The Aviation Safety Co-ordinator Course provides training for personnel within an organisation to develop and run a safety programme as required in Rule Part 119. AvKiwi is an annual safety seminar series presentation focusing on specific aviation subjects. AvKiwi provides an opportunity for service providers to discuss safety issues and learn from others' experiences.

Other programmes include the Inspector Authorisation Certificate course, the Maintenance Controller course, SMS training and resources and more.

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<sup>16</sup> <http://www.caa.govt.nz/publicinfo/annualrepanndprof.htm>

<sup>17</sup> <http://www.taic.org.nz/ReportsandSafetyRecs/AviationReports/tabid/78/language/en-NZ/Default.aspx>