IMPLEMENTING A SAFETY MANAGEMENT SYSTEM
INDUSTRY CASE STUDIES
AIR NEW ZEALAND
CIVIL AVIATION AUTHORITY OF NEW ZEALAND
The CAA SMS Case Study Series aims to provide an insight into selected aviation organisations that have started the journey of implementing a Safety Management System (SMS). These case studies have been developed through interviews with key staff and crew, research into their safety and risk management policies, procedures and practices, and reference to the CAA SMS Forums held in 2013. The content was not sourced through documentation or activities relating to regulatory process.

DEVELOPED: JUNE 2014
SAFETY MANAGEMENT SYSTEMS

Since 2012, the Civil Aviation Authority of New Zealand have developed resources and guidance material to actively support the implementation of a Safety Management System (SMS) in all sectors of the aviation industry. This has included the Advisory Circular AC00-4 Safety Management Systems, the publication of the CAA Safety Management System Implementation Strategy and an Industry Resource Kit including four guidance booklets.

The Civil Aviation Authority defines an SMS as “a systematic approach to managing safety, including the necessary organisational structures, accountabilities, policies and procedures”. These case studies aim to demonstrate examples of this systematic approach. There are no confirmed Regulations requiring an SMS to be implemented as yet, however there is significant value in proactively doing so. These case studies highlight how proactive implementation is possible, and what the advantages are in doing so.

It’s important to remember that the implementation of an SMS is a journey rather than a destination. Whilst aviation organisations should set objectives to measure success and progress, it also means every step taken along the way is valuable.
AIR NEW ZEALAND: AN OVERVIEW

HISTORY
AFTER COMMENCING OPERATIONS IN 1940 AS TASMAN EMPIRE AIRWAYS LTD, THE OPERATION WAS RE-NAMED AS AIR NEW ZEALAND IN 1967 AFTER IT BECAME WHOLLY OWNED BY THE NZ GOVERNMENT IN 1965. IT WAS LARGELY PRIVATISED IN 1989 AND RETURNED TO MAJORITY GOVERNMENT OWNERSHIP IN 2001. OVERALL, AIR NEW ZEALAND EMPLOYS OVER 11,000 STAFF AND CREW WITH THEIR HEAD OFFICE BASED IN AUCKLAND.

OPERATIONS
The airline currently operates to 26 domestic and 24 international destinations across 15 countries. These services are performed by the airline’s fleet including the B747-400s, B777-200ERs, B777-300ERs, B767-300ERs, B737-300s and A320s. Air New Zealand is also the launch customer for the -9 variant of the B787 Dreamliner, due for delivery in 2014.

Additionally, the Air New Zealand Regional network includes three subsidiaries; Air Nelson who operate the Bombardier Q300, Eagle Airways who operate the Beach 1900Ds, Mount Cook Airline operating the ATR 500s/600s. Air New Zealand also maintains technical subsidiaries to support their operations, including Air New Zealand Engineering Services, TAE, Safe Air New Zealand and Australia, Christchurch Engine Centre and Altitude Aerospace Interiors.
The scope of Air New Zealand’s operations, regulatory requirements, support capability and size, means it is critical for formal safety, quality and risk management systems to be in place. These are implemented throughout the airline, all subsidiaries and other key stakeholders. Managing change in a risk-based manner is important, particularly in cases where commercial and operational needs must be taken into account.

In the late 90’s Air New Zealand implemented an overarching and integrated management system which incorporated not only quality but certain elements of SMS. The ‘Airline Management System Manual’ was formed and remains to this day the primary document for SMS information. This created the foundation of Air New Zealand’s approach to formally managing safety. The introduction of the International Airline Transport Association (IATA) International Operational Safety Audit (IOSA) Program in 2003 prompted further enhancements, as the IOSA program was designed to encourage the implementation of standard methods and processes for managing safety, including the application of risk management. In 2004, Air New Zealand undertook their first IOSA audit and has done so every two years from then on. Ongoing enhancements have continued throughout the years, with one of the most recent examples being the introduction of the Group-wide KORUSAFe intranet-based online reporting system. KORUSAFe is designed to facilitate a common approach to reporting, accessing of safety publications and documentation as well as other key activities.

Over the years, Air New Zealand has built a dedicated safety team (led by Errol Burtenshaw and Alan Bradbury), which consist of a team of Safety Specialists and Quality Specialists (who are skilled in safety investigations, risk management, safety auditing, and safety promotion and communications), and a Safety Data Manager and Analyst.
The following information provides an overview of Air New Zealand’s unique approach to 5 elements of their SMS in alignment with the 13 elements outlined in the CAA Advisory Circular AC00-4 Safety Management Systems. Some of their successes to date and future enhancement initiatives have been highlighted via the following five select elements from the CAA SMS framework.

**KEY FEATURES OF AIR NEW ZEALAND’S SMS:**

- Integrating risk management philosophies, processes and practices into all parts of managing safety.
- Regularly implementing new ideas for capturing and using safety information.
- Making the most of training and education opportunities to connect with crew and staff.
- Recognising the need for improved formal, risk-based change management processes.
Air New Zealand has more in place than basic ‘hazard identification’; they have an overarching and comprehensive approach to the collection of safety risk information, the analysis of that information and taking actions to appropriately manage it. For example, the airline has been running a mature and effective safety reporting system for many years, and one of the more recent activities was the implementation of an online reporting system through their ‘KORUSAFE’ online database. This is the first time a group-wide approach to reporting has been implemented; all staff and crew are using the same system for submitting safety reports. Reports are then collectively reviewed by the safety team, receive an operational risk classification, and actions are then tracked to completion via the same system. It’s also possible for the submitting staff/crew to see the progression of their own report through the database. Future enhancements are to include the integration of Health, Safety and Environment (HSE) reporting, and the inclusion of Bow Tie analysis modelling.

Another aspect of the Air New Zealand approach to hazard identification is the application of a Just Culture reporting policy. This essentially states that any employee can report anything that may pose a significant concern to the safety of operations, “even if you make an honest mistake or misjudgment” without the fear of punishment [extract from ‘Air New Zealand Reporting and Just Culture Policy’ 2014], whilst also stipulating that reckless behavior will not be tolerated. This policy makes significant inroads into allowing someone who may otherwise be reluctant, to actually report with confidence.
Air New Zealand has focused on implementing risk management policies, processes and practices for a number of years. In 2010 they developed a policy statement specifically addressing risk management.

They have formally recognised that “risk management techniques assist managers to focus on uncertainties and vulnerabilities associated with the future thereby improving the likelihood of meeting business objectives”.

The overall idea is for risk information to flow through the organisation through the use of risk registers for departments and specific projects. Departments then centrally coordinate all risk information through the Internal Audit team.

One of the most effective ways that Air New Zealand has applied risk management is to ensure that appropriate risk management planning is done for all non ‘business as usual’ scheduled flights including operational flight checks and aircraft delivery flights. The level of planning conducted is scaled in accordance with activity size, complexity, and familiarity with the nature of that activity. Overall, risk management has assisted in engaging the right stakeholders, outlining and documenting key risks and ultimately aiding decision making.

‘One cannot manage what one cannot measure’. This is a philosophy that the Air New Zealand safety team have made efforts to infuse within their approach to ‘management review’ as part of their SMS. One of the most important aspects of this is the collation, presentation and escalation of safety information. Every month, a series of safety meetings are held for each operational context [i.e. flight operations, engineering, etc] which are accompanied by a report which includes Operational Integrity Indices for key operational safety areas that are based on an algorithm that determines relative risk weightings. Each Index has a target set and monitored through these meetings. On a quarterly basis, the reports from each operational area are summarised, and presented to the leadership team and Board for review.

‘Safety Performance’ remains a key focus; the information escalated upwards needs to facilitate decision making. This in turn helps Air New Zealand make the right operational decisions. In the future as part of their continual improvement approach, Air New Zealand is aiming to focus on documenting and escalating information on the effectiveness of risk mitigation controls.
One of the IOSA Audit criteria states that airlines “…should have a program that ensures personnel throughout the organisation are trained and competent to perform SMS duties. The scope of such training should be appropriate to each individual’s involvement in the SMS” (IOSA SMS Strategy 2013). In 2015, this will change from a recommended practice to a Standard. As part of their proactive improvement, Air New Zealand’s recent focus has been to maximise the number of face-to-face training opportunities through the presentation of a series of safety training modules, starting with a discussion about ‘Just Culture’ and the ‘why’ and ‘how’ of safety reporting. Air New Zealand’s approach has been to train the right people for the right topics, so that their specific needs are being addressed. One recent example was the training of approximately 70 key staff and crew in risk management principles, processes and tools, including the use of a Venture Risk Management Plan to aid change. Now, they are developing a risk management training capability with an approach that has been tailored to suit the different needs of different staff.

In order to maintain the engagement of staff and crew, Air New Zealand’s safety team distribute a monthly newsletter that outlines key occurrences and other safety reports from each fleet, and any actions taken to address key risks. This is something that can be time-consuming to compile, however the benefits of demonstrating transparency for the purposes of education is a very powerful and meaningful activity. It also provides an excellent means of ‘closing the feedback loop’ for those who have submitted reports, and can see the change that’s been facilitated through their efforts.

The KORUSAFe magazine is well-known throughout the industry, and is a publication that includes detailed accounts of internal and external safety investigations, key safety topics and occurrence summaries.
ADVICE FOR OTHERS
IMPLEMENTING A SAFETY MANAGEMENT SYSTEM

Errol Burtenshaw and Alan Bradbury talked through their key pieces of advice for others in industry:

ON IMPLEMENTING AN SMS OVERALL…
Try new initiatives, especially if you’re small enough to be agile and flexible. If you’re acting to reduce your safety risks, then you are well on the way to implementing a Safety Management System.

ON ‘MANAGEMENT REVIEW’…
Be sure to have the framework and processes in place to have oversight of all your stakeholders’ safety risks (including those of your contractors). This can be achieved through regular, positive interactions and information sharing.

ON ‘SAFETY TRAINING AND EDUCATION’…
Make the opportunity to train and educate your staff and crew in person; make it interactive, personal and transparent.
THE AIR NEW ZEALAND SAFETY MANAGEMENT SYSTEM: A SUMMARY

• The motivation to enhance existing safety practices came from the first IOSA audit Air New Zealand underwent in 2004; after preparing and learning about how to enhance their SMS, the steps to take were easier to see.

• In recent years, the focus has been on achieving greater simplicity in how safety systems work; one example is the implementation of the group-wide KORUSAFe online database.

• Applying risk management principles has enabled all operational areas to consistently manage uncertainties that may impact on business objectives.

• Air New Zealand has a dedicated safety team, but it is the responsibility of all staff and crew to actively lead and be part of the SMS.

• Measuring safety performance is an important part of Air New Zealand’s SMS, and helps to highlight leadership decisions and actions required to facilitate change.

• Regular safety communication activities help maintain transparency of safety risks and initiatives, thereby improving crew and staff engagement.

• Air New Zealand’s safety team want to encourage industry to take their own approach to implementing a Safety Management System; no matter what the resources, budget or context, there are always positive activities that can be undertaken.

• In recent years, the focus has been on achieving greater simplicity in how safety systems work; one example is the implementation of the group-wide KORUSAFe online database.
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INDUSTRY CASE STUDIES:

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