IMPLEMENTING A SAFETY MANAGEMENT SYSTEM
INDUSTRY CASE STUDIES
OCEANIA AVIATION GROUP

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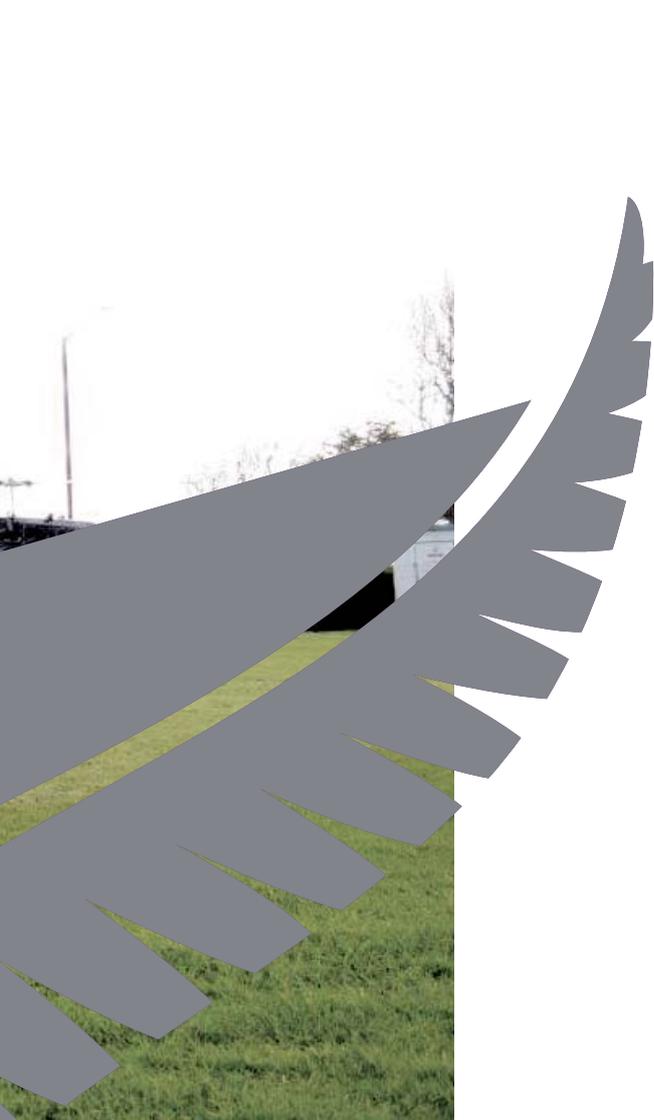
CAA
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SMS NEW ZEALAND

IMPLEMENTING A SAFETY MANAGEMENT SYSTEM
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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.

13 ELEMENTS OF A SAFETY MANAGEMENT SYSTEM

01 SAFETY POLICY AND ACCOUNTABILITY

02 COORDINATED EMERGENCY RESPONSE PLANNING

03 DEVELOPMENT, CONTROL AND MAINTENANCE OF SAFETY MANAGEMENT DOCUMENTATION

04 HAZARD IDENTIFICATION

05 RISK MANAGEMENT

06 SAFETY INVESTIGATION

07 MONITORING AND MEASURING PERFORMANCE

08 MANAGEMENT OF CHANGE

09 CONTINUAL IMPROVEMENT OF THE SMS

10 INTERNAL AUDIT PROGRAMME

11 MANAGEMENT REVIEW

12 SAFETY TRAINING AND EDUCATION PROGRAMME

13 COMMUNICATION OF SAFETY CRITICAL INFORMATION

OCEANIA AVIATION GROUP:
AN OVERVIEW

BACKGROUND AND OPERATIONS

THE OCEANIA AVIATION GROUP (MRO) IS MADE UP OF SEVERAL GENERAL AVIATION COMPANIES THAT HAVE BEEN ACQUIRED IN THE LAST TEN YEARS BY OCEANIA AVIATION LIMITED. EMPLOYING OVER 200 STAFF, THE GROUP NOW CONSISTS OF FOUR LIMITED LIABILITY COMPANIES: OCEANIA AVIATION, AEROMOTIVE, FLIGHT LINE AND SKY SALES. THE GROUP IS OVERSEEN BY TWO DIRECTORS AND A GENERAL MANAGER. OVERALL THEY MAINTAIN MULTIPLE CERTIFICATIONS ACROSS A NUMBER OF REGIONS AND APPLICATIONS INCLUDING CAA, RNZAF, EASA AND CASA PNG. THIS INCLUDES THE RECENT ADDITION OF A PART 148 CAPABILITY.

OCEANIA AVIATION was established in 1992 at a facility in Ardmore, Auckland. There are now three separate facilities that provide a range of helicopter supply / service functions under their Part 145 certification. Their services include import and export of helicopters (including certification), sales and purchasing, line maintenance (including support for rotor blades, avionics, turbine engine and component overhaul) and parts sales. Harvard Lane, Ardmore, houses the helicopter and component maintenance and Part 148 manufacturing wing, Airborne Systems. Oceania Aviation is a distributor and service centre for the Schweizer Aircraft and MD Helicopters. The composite structures rotor blade repair facility is located in Corsair Lane at Ardmore Airport and not far from a newly-opened turbine overhaul shop which is located in the Flightline facility. Oceania Queenstown operates from the Heliworks facility located at Queenstown International Airport.

AEROMOTIVE LTD is focused on general aviation fixed wing aircraft maintenance and upgrades (including overhauls, piston engines, propeller and associated components), lease and support for New Zealand and the South Pacific. The main facility in Hamilton conducts general aircraft maintenance ranging from singles to turbo props, accessories such as instruments,

fuel control systems and starter/generator overhauls, and a propeller overhaul centre. The Timaru facility conducts piston engine overhaul. Aeromotive Hamilton provides maintenance support to CTC Aviation Training Ltd at CTC's maintenance facility in Hamilton. Aeromotive also supports the fleet of DA20 Katanas, the twin-engine Diamond DA42 Twin Stars, and Cessna 172s. The RNZAF Ohakea base includes the leasing and maintenance of the Air Force's twelve CT-4E Airtrainers. Engine Components NZ Ltd, a subsidiary of Aeromotive, provides aeronautical machining, welding and hard chrome plating to Part 145 standards from its Hamilton facility. Aeromotive joined the Oceania Aviation Group in 2007.

FLIGHTLINE Aviation Ltd (Flightline) has facilities located at Auckland's North Shore airfield, Ardmore Airfield and Dunedin International Airport. Flightline undertakes both fixed wing and rotary wing maintenance including piston engine, component and propeller overhaul. Flightline is an authorised distributorship for Cessna aircraft and rotary wing sales (including MD and Sikorsky), parts and servicing. Flightline became part of the Oceania Aviation Group in 2013.

SKY SALES is based in Christchurch and is an authorised distributorship for MD Helicopters covering New Zealand, Australia and the Pacific region in new aircraft sales and parts support. It is also the authorised Robinson Helicopters distributor for the South Island for aircraft sales and parts. It became part of the Oceania Aviation Group in 2013.

THE SAFETY MANAGEMENT SYSTEM CONTEXT

Due to the way in which existing 145 maintenance companies joined the group, multiple certifications under NZCAA Part 145, 148 and 19F have been a normal part of managing the quality system within each business unit. In addition, Flightline Aviation Limited also holds EASA 145. There is a strong view that certification requirements are the minimum standard, and proactive safety and risk management systems have been implemented throughout the group although currently with varying practices across the four different organisations.

The current model uses five expositions: one for each separate organisation and an additional one for their EASA certification. In order to simplify the internal management of safety and quality systems, their Quality Assurance team are currently in the process of streamlining their procedures so there will be one manual set applicable to Oceania Aviation Group that will cater for engineering across the 9 sites and 5 geographic regions. In doing so, the quality management systems will also be streamlined, and it is also possible to proactively implement a Group SMS. This is a significant project, and will be implemented in 2014.

OCEANIA AVIATION GROUP SAFETY MANAGEMENT SYSTEM: A CLOSER LOOK

The following information provides an overview of the Oceania Aviation Group's unique approach to 5 elements of their Safety Management System, 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 OCEANIA AVIATIONS' SMS:

- Open and frequently-utilised safety reporting system with a 'closed loop' action process.
- Tailored risk management processes and tools.
- Conduct of internal safety investigation to enhance safety learning.
- Transparent process for escalation of safety risks and other pertinent information.

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ELEMENT 04: HAZARD IDENTIFICATION

04

A safety and quality reporting system is in place through most of the Group. Staff are expected to report all defects, hazards, risks and other issues. Staff routinely submit reports through the system, including ones that are both proactive and reactive in nature; the Quality Assurance (QA) team receive approximately 6 reports per week. These reports are then reviewed by the QA team who assign a risk rating, placed on an electronic reporting database, and forwarded to the appropriate manager(s) for consideration or action. Actions are progressively recorded in the database. Managers then discuss the risks outlined by the reports and actions required/taken at their Strategic Leadership meeting. Summaries of the reports submitted and actions taken are printed out and placed on noticeboards around the Group's facilities. Currently, the QA team is working to implement the safety reporting system across all organisations in the Group throughout 2014. All staff are also able to review the status and content of the report (as well as who is responsible) at any time through the electronic database.

ELEMENT 05: RISK MANAGEMENT

05

Oceania Aviation actively uses risk management processes and tools as part of their day-to-day safety management practices. The QA team has developed and implemented a risk matrix that is consistent with 'international standard AS/NZS ISO 31000:2009 *Risk management – Principles and guidelines* and then tailored it to suit their operational context (engineering and maintenance). A risk matrix is then used for the allocation of risk levels for their safety reports, as well as all of their audit findings and for the risk assessments they conduct. This means they can compare 'apples with apples' when reviewing their highest risks.

Aeromotive Ltd also conducts an operational risk profiling activity each time an internal audit is conducted. This risk profile serves to assign a risk score to a specific task or activity that the staff undertakes, and then they are able to compare all their different types of activities in terms of their risk score, highest to lowest. These risk profile scores are communicated to the Board through their safety reporting mechanisms.

ELEMENT 06:
SAFETY INVESTIGATION

06

The purpose of a safety investigation is to determine the causal factors of an occurrence, in order to prevent its recurrence. This is done through the use of a process and methodology most likely to achieve this (including interviews, analysis processes and the inclusion of recommendations).

The QA team will often conduct an internal safety investigation after receiving a safety report. Of the 188 reports received in 2013, the team conducted 20 separate safety investigations. They ensure that a summary of the investigation is shared with staff, to 'close the loop' on the process, and discuss it at the regular staff meetings.

ELEMENT 11:
MANAGEMENT REVIEW

11

Oceania Aviation undertakes a number of key activities that maintain management support and facilitate safety governance practices. Every month the QA team compiles a report for each separate organisation that includes a summary of all safety and quality activity for the month. These reports include a summary of key risk information (i.e. any risks rated as medium or high) from the safety reports (including HSE-related ones), investigations and audits conducted, an environmental summary (including facility-related factors such as temperature), a summary of training conducted, and current safety and quality initiatives.

The report is submitted to the CEO, who reviews it in person with the QA team and relevant managers. A summary of this report is then developed and submitted to the Board. A strategic annual report is also produced and reviewed.

ELEMENT 12:
SAFETY TRAINING AND EDUCATION PROGRAMME

12

Across all four organisations there are a number of technical training processes and programs that are conducted. In addition to these, the Group also conducts a two-day safety training course for all staff which covers important elements of Oceania Aviation's safety management system including their safety policies and procedures, hazard identification (their safety reporting systems), and regulatory requirements such as HSE and Drug and Alcohol Management Programs (DAMP). Also, the QA team recently conducted a training gap analysis, which will assist them in planning future training requirements.

The engineers also conduct training in maintenance-specific Human Factors on an annual basis. The courses are designed specifically for their requirements, covering topics such as human error risks and how to best manage them.

ADVICE FOR OTHERS
IMPLEMENTING A SAFETY MANAGEMENT SYSTEM

Stephen Burrows, Aeromotive Oceania's Group Quality Assurance Manager, talked through some of his key pieces of advice for others in industry:

ON IMPLEMENTING A SAFETY MANAGEMENT SYSTEM…

Keep it simple – try to reduce the number of systems, processes and tools so you aren't making things so complex they're unsustainable. Look around for what's already out there that works and then tailor this for you use.

ON RISK MANAGEMENT…

It's worthwhile to tailor the risk management tool you use, so they suit your purpose. Be sure to consider all types of risk that are applicable to your organisation.

ON SAFETY TRAINING AND EDUCATION…

It's important to provide your safety and quality staff with the right skills and knowledge for their role. This will allow them to lead the leaders.

SAFETY MANAGEMENT SYSTEMS: KEY STAFF VIEWPOINTS

DON MCCRACKEN – CHIEF EXECUTIVE OFFICER, OCEANIA GROUP

Don McCracken has been involved with the organisations that are now part of the Oceania Group for the past 25 years. As Group CEO, he supports and promotes the safety, quality and risk management systems that are in place across the Group. Structural change creates new risks within an organisation and the company supports all efforts by staff to provide a successful proactive safety management system that minimises risk throughout all areas of the business.

Don is an advocate for encouraging individual responsibility as well as allowing flexibility for innovation. The management of safety is viewed in the same way. The flat management structure allows individuals authority to identify, assess and control risks immediately, rather than waiting for a decision from above. Reporting is seen as an important part of the safety system culture. A just culture is promoted throughout the organisation, where staff are encouraged to report openly without fear of punitive or negative consequences.
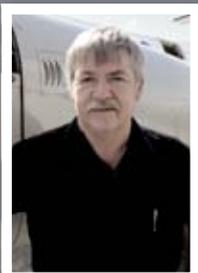
LARRY JOOST – ENGINEERING MANAGER

Larry started work with Aeromotive Ltd in 2007, after management roles in other key engineering organisations throughout New Zealand.

With respect to the management of safety, he feels that the application of Human Factors as part of day-to-day operational activity to be one of the most important aspects of creating a positive safety culture. From his experience, fostering a working environment where all work as one team (as opposed to smaller 'packs') allows for a more transparent reporting culture, especially when that working environment is a high pressure one. This includes a just reporting culture whereby errors are reported, shared for the benefit of learning, and addressed at the causal factor level.

When considering advice for other organisations, Larry suggests that in addition to fostering technical skills amongst one's team, just as important is the development of Human Factors awareness and the way to apply it.

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