



Advancing the interests of our members and the profession

A close-up photograph of a pilot's hand resting on the yoke of an aircraft. The pilot is wearing a dark uniform with gold stripes on the sleeve, indicating a high rank. The background is dark and out of focus, showing parts of the cockpit.

THE AUSTRALIAN AND INTERNATIONAL PILOTS ASSOCIATION  
Submission to the Australian Senate  
Rural and Regional Affairs and Transport References Committee on

# AVIATION ACCIDENT INVESTIGATION

October 2012

## **About the Australian and International Pilots Association**

### **Our Role**

AIPA seeks to advance the individual and collective employment interests of its members, who are pilots working within the Qantas group. We do this both in the workplace and in the broader aviation industry. As well as providing legal and welfare support to our membership, AIPA has a broader interest in the welfare of all pilots worldwide. AIPA is the eighth-largest member of the world-wide federation of pilot bodies, IFALPA.

AIPA also provides passionate advocacy on safety and technical issues, both locally and internationally. The organisation frequently participates in regulatory, technical and government inquiries and forums, and is recognised by various government and quasi-government bodies as having a stakeholder interest in the Australian aviation industry.

There are many issues that arise in aviation where AIPA can provide input and guidance that is free of vested financial interests and not aligned with any commercial entities or business coalitions. This broad non-partisan advice can add significant value to both the process and the outcomes.

### **Our Affiliations**

AIPA is a member organisation of the umbrella pilot representative body for Australia, AusALPA, and a member association of the International Federation of Airline Pilots' Associations (IFALPA). In the global context, IFALPA represents in excess of 100,000 pilots through over 100 aircrew organisations. IFALPA is recognised as a permanent observer to the ICAO Air Navigation Commission and, as such, participates fully in the technical deliberations of the Commission and ancillary Panels and Study Groups.

AIPA is also a partner of the OneWorld Cockpit Crew Coalition whose principal objective is to provide a co-operative forum for its member organisations to address matters of common interest affecting pilots within the airline companies who comprise the oneworld Alliance (currently Qantas, Aer Lingus, American Airlines, British Airways, Lan Chile, Iberia, Cathay Pacific, Finnair, Japan Airlines, Malev Hungarian Airlines and Mexicana) and their major codeshare partners.

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## EXECUTIVE SUMMARY

AIPA welcomes the opportunity to provide the Senate and the Australian public with our views on the current state of aviation accident investigations in Australia.

### First Term of Reference

AIPA believes that the Transport Safety Report provides little or no insight as to the nature of the organisational, legislative and human factors surrounding the accident. We do not believe that the Report reflects the product expected by the industry in contributing to the improvement of aviation safety.

### Second Term of Reference

AIPA believes that the Miller Review has resulted in the post-Lockhart River ATSB being diminished in its role to the point that it could now be described as “institutionally timid”. The pursuit of, if not fixation on, “no-blame” reporting in combination with the Directly Interested Parties process may have contributed to this perceived outcome.

### Third Term of Reference

Timely implementation of safety actions, particularly those directed to CASA, remains at the behest of the Secretary, Department of Infrastructure and Transport and the Minister.

### Fourth Term of Reference

AIPA believes that the proposed Transport Safety (Confidential Reporting Scheme) Regulations 2013 represent an unacceptable legislative abrogation of the privilege against self-incrimination that will irreparably damage the free flow of aviation safety information.

### Recommendations

AIPA makes no recommendation in regard to the First, Second and Third TOR.

In the case of the related issues of the proposed Transport Safety (Confidential Reporting Scheme) Regulations 2013, AIPA recommends they not be made until appropriate Parliamentary scrutiny has been applied to the legislative abrogation of the privilege against self-incrimination and the likely consequences.

AIPA also recommends that the legislative arrangements to provide a balanced approach to aviation safety reporting made by Denmark should be examined for their utility as a model for Australian legislative reform.

-- END --

**SUBMISSION TO THE AUSTRALIAN SENATE  
RURAL AND REGIONAL AFFAIRS AND TRANSPORT  
REFERENCES COMMITTEE**

***AVIATION ACCIDENT INVESTIGATIONS***

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## INTRODUCTION

The Australian and International Pilots association (AIPA) welcomes the opportunity to provide the Senate and the Australian public with our views on the current state of aviation accident investigations in Australia.

As the Committee is aware, AIPA has frequently pursued issues of importance to the safety of aviation in Australia. AIPA provides a number of functions for and on behalf of its members and, in the particular case of our Safety and Technical Portfolio, we extend our efforts the broader range of aviation employment and activity. A good example of the latter may be found in our submissions<sup>1</sup> to this Committee during the Inquiry into *Pilot Training and Airline Safety including consideration of the Transport Safety Investigation Amendment (Incident Reports) Bill 2010*. Included in those submission were some 95 recommendations for action across 12 different focus areas, including Risk Management, Pilot Fatigue Management, Training Standards, CASA (and ATSB) Staffing and Incident/Accident Reporting<sup>2</sup>. Given that there have been no significant improvements evident in the two years since that Inquiry, it is likely that we will have a great deal of work to do in order to maintain our enviable (but not world-beating) aviation safety record.

By its very nature, and particularly given the catalyst of the publication of the Report of Investigation Number AO-2009-072 “Ditching – Israel Aircraft Westwind 1124A aircraft, VH-NGA, 5 km SW of Norfolk Island Airport, 18 November 2009”<sup>3</sup>, this Inquiry is focused on the aviation safety activities of the Australian Transport Safety Bureau (ATSB).

At the outset, we wish to reassure the Committee that AIPA has a long-standing commitment to support the ATSB in enhancing aviation safety in Australia and farther afield. To that end, the President of AIPA (Captain Barry Jackson) and the Chief Commissioner (Mr Martin Dolan) signed a Memorandum of Understanding (MOU) on 12 April 2010 for ‘Cooperation and Support on Aviation Safety Investigations and Associated Matters.’<sup>4</sup> AIPA has no wish to jeopardise its close and cooperative relationship with the ATSB, but feels that there are some concerns and justifiable criticisms that we hope the ATSB will accept as constructive and intended only to generate safety benefits.

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1 AIPA, Submissions 6, 6a and 6ss to the Australian Senate Rural Affairs and Transport References Committee Inquiry on Pilot Training and Airline Safety including consideration of the Transport Safety Investigation Amendment (Incident Reports) Bill 2010

2 AIPA, Submission 6add2, *op. cit.*

3 ATSB, Transport Safety Report - Aviation Occurrence Investigation AO-2009-072 Final at [http://www.atsb.gov.au/publications/investigation\\_reports/2009/air/ao-2009-072.aspx](http://www.atsb.gov.au/publications/investigation_reports/2009/air/ao-2009-072.aspx) released 30 August 2012, accessed 10 October 2012

4 ATSB, *Memoranda of Understanding*, at [http://www.atsb.gov.au/about\\_atsb/memoranda.aspx](http://www.atsb.gov.au/about_atsb/memoranda.aspx) accessed 10 October 2012

## THE TERMS OF REFERENCE

“On 13 September 2012, the Senate agreed that the following matters be referred to the Rural and Regional Affairs and Transport References Committee for inquiry and report by 29 November 2012:

- (a) the findings of the Australian Transport Safety Bureau into the ditching of VH-NGA Westwind II, operated by Pel-Air Aviation Pty Ltd, in the ocean near Norfolk Island airport on 18 November 2009;
- (b) the nature of, and protocols involved in, communications between agencies and directly interested parties in an aviation accident investigation and the reporting process;
- (c) the mechanisms in place to ensure recommendations from aviation accident investigations are implemented in a timely manner; and
- (d) any related matters.”<sup>5</sup>

Before we address the Terms of Reference (TORs), we should begin with a brief review of the ATSB and its functions.

## HOW THE ATSB DOES BUSINESS

### An Overview

The following overview may be found on the ATSB website as part of the “About the ATSB” pages:

“The Australian Transport Safety Bureau (ATSB) is an independent Commonwealth Government statutory Agency. The ATSB is governed by a Commission and is entirely separate from transport regulators, policy makers and service providers.

The ATSB's function is to improve safety and public confidence in the aviation, marine and rail modes of transport through excellence in:

- independent investigation of transport accidents and other safety occurrences;
- safety data recording, analysis and research; and
- fostering safety awareness, knowledge and action.

The ATSB is established by the Transport Safety Investigation Act 2003 (TSI Act) and conducts its investigations in accordance with the provisions of the Act. Under the TSI Act, it is not a function of the ATSB to apportion blame or provide a means for determining liability. The ATSB does not investigate for the purpose of taking administrative, regulatory or criminal action.”<sup>6</sup>

In order to provide a framework for our response to the TORs, we need to briefly look at parts of the enabling legislation.

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<sup>5</sup> Rural and Regional Affairs and Transport References Committee, *Current Inquiries*, at [http://www.aph.gov.au/Parliamentary\\_Business/Committees/Senate\\_Committees?url=rrat\\_ctte/pel\\_air\\_2012/tor.htm](http://www.aph.gov.au/Parliamentary_Business/Committees/Senate_Committees?url=rrat_ctte/pel_air_2012/tor.htm) accessed 10 October 2012

<sup>6</sup> ATSB, *Overview of the ATSB*, at [http://www.atsb.gov.au/about\\_atSB/overview.aspx](http://www.atsb.gov.au/about_atSB/overview.aspx) accessed 10 October 2012

## The Transport Safety Investigation Act 2003

For the purposes of this limited discussion, the relevant functions of the ATSB are found in section 12AA:

### “12AA Functions of the ATSB

- (1) The ATSB’s function is to improve transport safety by means that include the following:
  - (a) receiving and assessing reports of transport safety matters, reportable matters, and other safety information that is prescribed by the regulations;
  - (b) independently investigating transport safety matters;
  - (c) identifying factors that:
    - (i) contribute, or have contributed, to transport safety matters; or
    - (ii) affect, or might affect, transport safety;
  - (d) communicating those factors to relevant sectors of the transport industry and the public in any way, including in any one or more of the following ways:
    - (i) by making safety action statements;
    - (ii) by making safety recommendations;
    - (iii) by issuing safety advisory notices;
  - (e) reporting publicly on those investigations;
  - (f) conducting public educational programs about matters relating to transport safety;
  - (g) any other means prescribed by the regulations.
- (2) The ATSB also has the following functions:
  - (a) cooperating with:
    - (i) an agency of the Commonwealth, a State or Territory that has functions or powers relating to transport safety or functions affected by the ATSB’s function of improving transport safety; and
    - (ii) a person who has, under a law of the Commonwealth, a State or Territory, functions or powers relating to transport safety or functions affected by the ATSB’s function of improving transport safety; and
    - (iii) a national authority or other body of another country that has functions or powers relating to transport safety or functions affected by the ATSB’s function of improving transport safety;
  - (b) doing anything incidental to its function of improving transport safety.
- (3) The following are not functions of the ATSB:
  - (a) to apportion blame for transport safety matters;
  - (b) to provide the means to determine the liability of any person in respect of a transport safety matter;
  - (c) to assist in court proceedings between parties (except as provided by this Act, whether expressly or impliedly);
  - (d) to allow any adverse inference to be drawn from the fact that a person was involved in a transport safety matter.



However, even though blame or liability may be inferred, or an adverse inference may be made, by a person other than the ATSB, this does not prevent the ATSB from carrying out its functions.

- (4) To avoid doubt, subsection (3) does not prevent the prosecution of any offence under this Act.”<sup>7</sup>

In aviation safety terms, we are not alone. The International Civil Aviation Organisation (ICAO) has established Standards and Recommended Practices (SARPs) for accident investigation (known as Annex 13)<sup>8</sup> in accordance with Articles 26 and 37 of the Chicago Convention<sup>9</sup>. Article 38 requires us to register any differences from those SARPs with ICAO to aid international awareness of Australian policy and procedures. Our international obligations are enlivened by section 12AD of the TSI Act and regulation 5.3 of the *Transport Safety Investigation Regulations 2003* (TSIR 03).<sup>10</sup>

## Human Factors

The “About the ATSB” pages of the ATSB website take us to “International Recognition”, where the following statement may be found:

“The Australian Transport Safety Bureau (ATSB) holds a worldwide reputation for excellence based on its operational independence, objectivity and technical competence in accident investigation. Its expertise and contribution to the field of human factor at both the individual and organizational level is acknowledged as world class. The bureau was one of the first world's civil aviation safety investigation organizations to develop a capability in human factors, and system safety. Subsequent advanced research work has led the Bureau to become a world leader in proactive accident prevention and safety enhancement as well as core accident investigation. The Bureau's ongoing commitment to the behavioural science of human and organizational factors in transport safety is at the heart of its credibility and underlies its reputation as a leading safety investigation agency in the world arena.”<sup>11</sup>

Indeed, this theme was repeated quite recently during Senate Estimates in response to a question from Senator Xenophon:

“**Senator XENOPHON:** You do not think it constrains you in terms of providing more depth in human factors analysis?”

**Mr Dolan:** That was the second part, as I was saying, of the question. There is the specific timeliness thing, an appropriate level of review to make sure that the rigour and the factual accuracy of our reports is in place, which I think is important, and it also goes to procedural fairness. Although we are a no-blame organisation, people can

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<sup>7</sup> See <http://www.comlaw.gov.au/Details/C2012C00366> accessed 10 October 2012

<sup>8</sup> ICAO, Annex 13 *Aircraft Accident and Incident Investigation* to the Convention on International Civil Aviation

<sup>9</sup> See Schedule 1—Convention on International Civil Aviation to the *Air Navigation Act 1920*

<sup>10</sup> See <http://www.comlaw.gov.au/Details/F2009C00480> accessed 10 October 2012

<sup>11</sup> ATSB, *International Recognition*, at [http://www.atsb.gov.au/about\\_atsb/international-recognition.aspx](http://www.atsb.gov.au/about_atsb/international-recognition.aspx) accessed 10 October 2012

read our reports as pointing the finger, even though we do not intend them to. So there are no surprises for those involved.

The second point is that I am startled that there is a belief out there that we do not have human factors at the core of what we do. Our entire investigation and analytical model is based on fundamental principles of human factors—understanding human error, understanding how to minimise it, accepting that you can never remove it, and looking therefore at how you capture errors and make sure they are dealt with in the system. I am not sure, in addition to that, how much I can say.”<sup>12</sup>

It is important to clarify why there is such an emphasis (and great expectations) on the science of Human Factors. The Executive Summary of the excellent ATSB publication “*A Layman's Introduction to Human Factors in Aircraft Accident and Incident Investigation*” provides an appropriate insight:

“The term ‘Human Factors’ refers to the application of scientific knowledge, mostly from the human sciences of psychology, anthropology, physiology and medicine, to the design, construction, operation, management and maintenance of products and systems.

The purpose of the application of this scientific knowledge is to attempt to reduce the likelihood of human error and therefore the likelihood of negative outcomes while operating or using products or systems.

This paper is concerned primarily with the relationship of Human Factors to aircraft accident and incident investigations. The purpose of applying Human Factors knowledge to such investigations is to not only understand what happened in a given accident, but more importantly, why it happened. Without understanding why an accident occurred, safety investigation agencies such as the Australian Transport Safety Bureau (ATSB) are limited in their ability to draw meaningful conclusions and propose effective safety action and recommendations for change.

Most aircraft accidents and incidents are the result of errors (including slips and lapses) made by the people responsible for operating the aviation system. These people could be pilots, air traffic controllers, maintenance staff or executive managers of the various aviation organisations. Some of the errors committed by these people are the result of deliberate violations of rules and procedures. However, even the majority of errors resulting from violations do not come from any intent to harm anyone or commit a crime. Any aircraft crash that is the result of a wilful act intended to cause harm or damage is by definition not an accident and would not fall within the investigative mandate of the ATSB. As has been seen in the US in recent years, and would also be the case here in Australia, aircraft crashes that are the result of wilful violations with the intent of causing harm or damage are investigated by criminal and security investigation authorities.

Some people believe that if a human is given a reasonable task to complete and they are adequately trained, then the individual should be able to repeatedly perform the task without error. However, applied research and accident investigation reports from around the world demonstrate that this view is incorrect. Competent humans conducting even simple tasks continually make errors, but in most cases they recognise the errors they have made and correct them before any consequence of the

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<sup>12</sup> Rural and Regional Affairs and Transport Legislation Committee, Senate Committee Hansard, Budget Estimates 23 May 2012, page 86

errors is realised. In a small number of cases they fail to either recognise the errors or fail to correct them before the consequences of the errors are realised.

It is believed by many human science professionals that human error is a normal part of human performance and is related to the very qualities that make us human. That is, our brains allow us to quickly assess large amounts of information and make varying judgements and decisions about that information. However, our ability to vary our judgements and decisions are influenced by many factors and these factors often lead us to make errors.

Since it was known very early on in aviation history that the pilot ‘failed’ significantly more often than the plane did, most aircraft accidents were classified as ‘pilot error’ and often the explanation went little further than that. **The use of the term ‘pilot error’ provides a simple, but often misleading explanation of a complex accident sequence.**

Sections of the community and some high-risk industries seem to desire a simple explanation for complex events. That is, of what ‘caused’ the event and who is to ‘blame’. Some also tend to see Human Factors as a process of helping individuals avoid their responsibility for accidents.

While the concept of pilot error tends to fit well with the desire to blame someone, it is at odds with international agreements and Australian domestic law.

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Safety investigations need to keep focused on why an accident or incident occurred, rather than who is to blame.

With the evolution of human factors, human sciences knowledge is now not only applied against a systems engineering background, but also against a psychosocial and more recently a business management framework. **These evolutionary developments break away from the idea that a pilot operates in a vacuum and that accidents are events isolated from the system which nurtured them.**

Contemporary human factors application is now as much about understanding how groups of people, be they flight crew, cabin crew, maintenance staff, air traffic controllers or senior management teams operate, and why they make decisions and behave in particular ways, as it is about individuals. **It is also now about viewing accidents as part of the overall complex system which supported all the aspects of the operation. As such, it is about understanding how organisations manage risk and balance their safety obligations with their business imperatives...** [emphasis added]<sup>13</sup>

As we saw in the previous section above, subsection 12AA(3) of the TSI Act reinforces the “no-blame” philosophy, while providing the important rider that the ATSB is not to be prevented from carrying out its functions by the possibility that an unrelated party may infer blame or liability or make an adverse inference. AIPA has been concerned for some time that an over-emphasis on the former has

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<sup>13</sup> David Adams, 2006, *A Layman's Introduction to Human Factors in Aircraft Accident and Incident Investigation*, ATSB Canberra, accessed 10 Oct 2012 at <http://www.atsb.gov.au/publications/2006/b20060094.aspx>

overshadowed, if not obscured, the latter. We have raised those concerns and made related recommendations to this Committee at a previous Inquiry.<sup>14</sup>

AIPA also believes that the above quotations reinforce the now almost universal view that accidents and incidents should be seen as organisational, but preferably systemic, rather than individual events. In this context, that system includes not only the groups listed above but also the regulators, the clients and even government departments. There should be no sign that any organisation is “touched lightly” by an investigation as a consequence of perceived power in interested party consultation, particularly at the apparent expense of an individual.

## THE FIRST TERM OF REFERENCE

The first TOR reflects what AIPA believes to be the catalyst for this Inquiry, the publication on 30 August 2012 of the Report of Investigation Number AO-2009-072:

- (a) the findings of the Australian Transport Safety Bureau into the ditching of VH-NGA Westwind II, operated by Pel-Air Aviation Pty Ltd, in the ocean near Norfolk Island airport on 18 November 2009;

The published Findings were:

### **“FINDINGS**

From the evidence available, the following findings are made with respect to the ditching 5 km south-west of Norfolk Island Airport on 18 November 2009 involving Israel Aircraft Industries Westwind 1124A aircraft, registered VH-NGA. They should not be read as apportioning blame or liability to any particular organisation or individual.

### **Contributing safety factors**

- The pilot in command did not plan the flight in accordance with the existing regulatory and operator requirements, precluding a full understanding and management of the potential hazards affecting the flight.
- The flight crew did not source the most recent Norfolk Island Airport forecast, or seek and apply other relevant weather and other information at the most relevant stage of the flight to fully inform their decision of whether to continue the flight to the island, or to divert to another destination.
- The flight crew’s delayed awareness of the deteriorating weather at Norfolk Island combined with incomplete flight planning to influence the decision to continue to the island, rather than divert to a suitable alternate.

### **Other safety factors**

- The available guidance on fuel planning and on seeking and applying en route weather updates was too general and increased the risk of inconsistent in-flight fuel management and decisions to divert. [*Minor safety issue*]

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<sup>14</sup> AIPA, Submissions 6 *et seq*, *op.cit.*

- Given the forecast in-flight weather, aircraft performance and regulatory requirements, the flight crew departed Apia with less fuel than required for the flight in case of one engine inoperative or depressurised operations.
- The flight crew’s advice to Norfolk Island Unicom of the intention to ditch did not include the intended location, resulting in the rescue services initially proceeding to an incorrect search datum and potentially delaying the recovery of any survivors.
- The operator’s procedures and flight planning guidance managed risk consistent with regulatory provisions but did not effectively minimise the risks associated with aeromedical operations to remote islands. [*Minor safety issue*]

### Other key findings

- At the time of flight planning, there were no weather or other requirements that required the nomination of an alternate aerodrome, or the carriage of additional fuel to reach an alternate.
- The aircraft carried sufficient fuel for the flight in the case of normal operations.
- A number of the flight crew and medical personnel reported that their underwater escape training facilitated their exit from the aircraft following the ditching.
- The use by the flight crew of the aircraft’s radar altimeter to flare at an appropriate height probably contributed to a survivable first contact with the sea.
- The observation of the pilot in command’s torch re-directed the search to the correct area and facilitated the timely arrival of the rescue craft.”<sup>15</sup>

AIPA was not party to the investigation and is not in possession of any factual material related to the investigation. Our comments are therefore limited the more general context of whether the publication of the Report is timely and adds aviation safety value.

In 2011, we raised our concerns in our Supplementary Submission to this Committee during the Inquiry into *Pilot Training and Airline Safety including consideration of the Transport Safety Investigation Amendment (Incident Reports) Bill 2010* in this way:

“Are ATSB Reports serving their intended safety purpose or are they too late and too superficial to be anything other than records of bureaucratic activity?

AIPA is of the view that recent major reports are not serving their safety improvement purpose due to a lack of depth, particularly in regard to HF, and a lack of timeliness. We believe that, without the technical and HF insight that is required for complete understanding of complex failures, it is difficult to defend against an inaccurately or inadequately described problem.

Similarly, if nobody really remembers the problem or they think it has already been solved before a report is issued several years after the event, then the

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<sup>15</sup> ATSB, Transport Safety Report, *op. cit.*, pages 43-44

report has lost its value (other than a record of activity). The roadblocks to timely publication must be eliminated.

AIPA believes that there needs to be a formal system for multilateral industry assistance to the ATSB to supplement its resources, particularly in regard to specialist operational and technical knowledge.”<sup>16</sup>

It is through that prism that AIPA provides its comments.

## Timeliness of Publication

ATSB, like CASA, focuses its priorities on ‘fare-paying passenger operations’.<sup>17</sup> Under the current classification of operations set out in Civil Aviation Regulation (CAR) 206<sup>18</sup>, this is generally accepted as excluding ‘aerial work’ activities, which includes “ambulance functions”. Given that the ditching was non-fatal, it seems likely that the investigation and finalisation of the report was not accorded a high priority.

AIPA well understands and accepts the need to prioritise the use of the ATSB’s resources. We also understand that in some cases the Report will fall into the category of an historical record, because “nobody really remembers the problem or they think it has already been solved”. *Prima facie*, the successful ditching of an air ambulance flight might well fit that bill, given that the subsequent investigation generated only two ‘minor safety issues’, the lowest level of identified risk.

However, after the effluxion of some 33 months between accident and publication of the report, a few questions emerge:

- were the real issues identified,
- were the correct solutions developed,
- have those solutions been put in place, and
- has the rest of the aviation community learned from the events?

AIPA believes that each of these questions bears further examination, particularly as the Report appears to us to lack appropriate balance between the system and the individual flight crew members.

## The Regulatory Context – Air Operators Certificate

The Report identifies that the flight was categorised as ‘aerial work’ and makes the distinction that:

“Aerial work operations are a separate flight category from passenger-carrying charter and scheduled air transport operations.”

However, no mention is made of the fact that section 27 of the *Civil Aviation Act 1988* (CAA 88) mandates that each of those three classes of operations requires an Air Operators Certificate (AOC) and must meet a range of requirements. Of

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<sup>16</sup> AIPA, Submission 6ss, *op. cit.*, page 7

<sup>17</sup> ATSB, *Overview of the ATSB*, *op. cit.*

<sup>18</sup> See <http://www.comlaw.gov.au/Details/F2012C00622> accessed 10 October 2012

particular significance from an organisational perspective are sections 28BE and 28BF, which apply regardless of the class of operations and state in pertinent part:

**“28BE Duty to exercise care and diligence**

- (1) The holder of an AOC must at all times take all reasonable steps to ensure that every activity covered by the AOC, and everything done in connection with such an activity, is done with a reasonable degree of care and diligence.
- (2) If the holder is a body having legal personality, each of its directors must also take the steps specified in subsection (1).
- (3) It is evidence of a failure by a body and its directors to comply with this section if an act covered by this section is done without a reasonable degree of care and diligence mainly because of:
  - (a) inadequate corporate management, control or supervision of the conduct of any of the body’s directors, servants or agents; or
  - (b) failure to provide adequate systems for communicating relevant information to relevant people in the body...”

and

**“28BF Organisation, personnel etc.**

- (1) The holder of an AOC must at all times maintain an appropriate organisation, with a sufficient number of appropriately qualified personnel and a sound and effective management structure, having regard to the nature of the operations covered by the AOC...”

AIPA’s interpretation of these provisions is that, in simple terms, the organisation must match the complexity of the intended operations and that, for a company such as Pel-Air, the directors have a continuous duty to ensure that such an organisational parity is achieved.

In this particular instance, it seems reasonable that Pel-Air should have been an abundantly capable organisation given that it was a wholly-owned subsidiary of a prominent airline and that the Chairman was a prominent aviation consultant with deep insight into previous organisational failures such as Monarch Airlines and Seaview Air<sup>19</sup>. Importantly, Pel-Air offered on its website the capability to provide charter or medevac flights “anywhere at any time”. In AIPA’s view, an operation of that reach and capability would inevitably require robust training, supervision, operational support and fatigue management and very careful risk management – an area apparently unexplored by the investigation.

## **The Regulatory Context - Aerial Work vs Charter**

The Report does not mention that Civil Aviation Order (CAO) 82.1 “*Conditions on Air Operators’ Certificates authorising charter operations and aerial work operations*” makes no distinction of relevance to the accident between the requirements for charter and those for aerial work.

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<sup>19</sup> See <http://www.rex.com.au/AboutRex/OurCompany/directors.aspx>

It is quite normal for AOC holders offering both aerial work and charter operations in transport category aircraft such as the Westwind and other relatively sophisticated aircraft in the Pel-Air fleet to choose to operate to the charter standard, regardless of the actual class of operations for a particular task.. This has the advantage of managing compliance risk in switching between operating classifications. In the past, where there are inconsistent requirements between classes of operations, such as between low and high capacity regular public transport (RPT), CASA haindicated an expectation that the AOC holder will adopt the higher standard for all operations. Furthermore, it is also quite normal for many clients in the resource industries to require charter operators to operate to regular public transport standards, as these standards are seen as representing the greatest risk mitigation.

AIPA offers the view that the classification of operations under CAR 206 was born in an era when aerial work was the domain of unsophisticated, cheap and readily replaceable light aircraft being employed on risky tasks with minimal third-party exposure and few alternatives to getting the job done. ‘Aerial work’ provided a regulatory flexibility that reflected the practicalities of activities that in many other jurisdictions are unregulated. However, many aerial work activities have evolved into far more sophisticated operations than were even contemplated when that classification was defined.

As part of that evolution, our expectation is that the use of much higher value assets would bring with it a concomitantly higher level of risk management. Consequently, we would be surprised to see any pressure to seek commercial advantage by making use of reduced requirements, particularly fuel and aircraft equipment, which are available in the aerial work category but not in charter. Unfortunately, the investigation apparently did not examine either the appropriateness (as distinct from legal availability) of the aerial work classification for sophisticated air ambulance operations or the operational decision to use the lower standard.

## **The Regulatory Context – Training & Checking Requirements**

The Report makes no mention of the fact that operation of the Westwind aircraft, an aircraft of maximum take-off mass of 10660 kg, enlivened the requirement to provide a formal Training & Checking regime pursuant to CAR 217:

### **“217 Training and checking organisation**

- (1) An operator of a regular public transport service, an operator of any aircraft the maximum take-off weight of which exceeds 5,700 kilograms and any other operator that CASA specifies shall provide a training and checking organisation so as to ensure that members of the operator’s operating crews maintain their competency.

Penalty: 50 penalty units.

- (2) The operator must ensure that the training and checking organisation includes provision for the making in each calendar year, but not at intervals of less than four months, of two checks of a nature sufficient to test the competency of each member of the operator’s operating crews...”

That requirement is in turn reflected in CAO 82.1 with greater detail:



### **“3 Obligations in relation to training and checking**

- 3.1 Each operator who is required to provide a training and checking organisation under regulation 217 of the Civil Aviation Regulations 1988:
- (a) must do so in accordance with Appendix 2; or
  - (b) may use the training and checking organisation provided by another operator if:
    - (i) that use is in accordance with a written agreement with that other operator; and
    - (ii) that agreement has had the prior written approval of CASA.
- 3.2 An agreement under subparagraph 3.1 (b) must not be varied without the approval of CASA.
- 3.3 Persons must not be nominated to supervisory positions within the training and checking organisation without the approval of CASA...”

The Report mentions in passing under Personnel Information that the operator’s Operations Manual contained a Part D titled *Check and Training* and that it included a section on post-endorsement training. The Report also noted that the Operations Manual has no requirement to record that training or, it would appear, the proficiency checks required under CAR 217.

AIPA notes that the Report makes no mention of the fact that the identified lack of records seems at odds with the requirements of CAO 82.1 Appendix 1 and 2. *Prima facie*, it seems to be a curious omission not to make it clear in the Report if the operator was not meeting its training and checking responsibilities and CASA had not previously detected it. In this situation, it is difficult to ascertain whether the crews were indeed proficient or whether the operator was providing effective training, including fuel planning, for the range of operations that it offered to the public.

### **The Regulatory Context – Fuel Planning Requirements**

AIPA is of the view that CAR 234 establishes the overarching requirement for fuel planning and appropriately balances the shared responsibility of the pilot and the operator:

#### **“234 Fuel requirements**

- (1) The pilot in command of an aircraft must not commence a flight within Australian territory, or to or from Australian territory, if he or she has not taken reasonable steps to ensure that the aircraft carries sufficient fuel and oil to enable the proposed flight to be undertaken in safety.

Penalty: 50 penalty units.

- (2) An operator of an aircraft must take reasonable steps to ensure that an aircraft does not commence a flight as part of the operator’s operations if the aircraft is not carrying sufficient fuel and oil to enable the proposed flight to be undertaken in safety.

Penalty: 50 penalty units.

- (3) For the purposes of these regulations, in determining whether fuel and oil carried on an aircraft in respect of a particular flight was sufficient within the meaning of subregulations (1) and (2), a court must, in addition to any other matters, take into account the following matters:
- (a) the distance to be travelled by the aircraft on the flight to reach the proposed destination;
  - (b) the meteorological conditions in which the aircraft is, or may be required, to fly;
  - (c) the possibility of:
    - (i) a forced diversion to an alternative aerodrome; and
    - (ii) a delay pending landing clearance; and
    - (iii) air traffic control re-routing the flight after commencement of the flight; and
    - (iv) a loss of pressurisation in the aircraft; and
    - (v) where the aircraft is a multi-engined aircraft — an engine failure;
  - (d) any guidelines issued from time to time by CASA for the purposes of this regulation.
- (4) An offence against subregulation (1) or (2) is an offence of strict liability.”

While AIPA appreciates that the ATSB does not investigate for the purposes of regulatory compliance, it is our view that the mere juxtaposition of CAR 234, CAO 82.0 and Civil Aviation Advisory Publication (CAAP) 234-1(1) *Guidelines for Aircraft Fuel Requirements* would generate greater debate.

For example, the ATSB may well have discussed whether, and to what extent, the information contained therein is inconsistent and, further, why CAAP 234-1 did not include the special case of remote island fuel planning, given that the CAO 82.0 requirements preceded the CAAP by several years. Similarly, the Aeronautical Information Publication (AIP) provides no clue that special requirements exist.

To the extent that the Report notes that as “an aerial work flight, the aeromedical flight to Norfolk Island was not subject to these CAO 82.0 requirements, but they nevertheless provide useful context”, AIPA is disappointed that the ATSB did not question the possibility that neither the lack of applicability of CAO 82.0 nor the vagaries of CAAP 234-1(1) served to reasonably release the operator from the higher duty of CAR 234, particularly given that anything that made the Norfolk Island runway unusable meant that the closest usable runway was 429 nm away in Noumea. It seems to us that this was a lost opportunity to question the appropriateness of many aspects of the regulatory framework, regardless of what is or may be promised as part of the long-awaited regulatory review.

AIPA also notes that the Report offers little evidence as to the extent of the operator’s support of its flight crews in regard to the provision of a Route Manual or some other guide to the peculiarities of certain destinations. Each of the three islands declared ‘remote’ in CAO 82.0 are renowned for unpredictable and often severe weather phenomena – each creates significant orographic uplift and their isolation from meteorological data collection points and ocean buoys means that

there is often little warning of sudden deterioration in the weather which then often takes days rather than hours to dissipate. The Norfolk Island weather was the subject of a specific ATSB safety recommendation in 2000<sup>20</sup> and we are confident that it still represents a major challenge to the Bureau of Meteorology today. Importantly, while it may not be unusual for young and inexperienced pilots to be unaware of these peculiarities, the operator is generally best placed to do the research as part of their operational risk management.

AIPA is a little concerned about the discussion on Critical Points (CPs) and Points of No Return (PNRs) in relation to the Air Transport Pilot Licence (ATPL) theory training. In our view, the techniques learnt to pass the theory exam are extremely perishable unless reinforced in operational use and practiced regularly. In our view, for long range limited-option flights such as the accident flight, the operator has a responsibility, through the Training & Checking regime, to convert any residual theory knowledge into demonstrated operational competence. Notwithstanding, we believe that the flight crew have a shared responsibility to properly prepare themselves to meet the likely operational requirements.

## **RVSM Capability**

The issue of a lack of Reduced Vertical Separation Minima (RVSM) capability for that particular aircraft has been raised, in one case in a highly emotional way. AIPA takes the view that a lack of RVSM capability, whether as a result of design limitations, equipment unserviceability or investment choice, is just another operational limitation for which the crew must adequately plan. Both operator and crew must accept that appropriate changes to the route or fuel/payload ratio may be required or, in some cases, the task may have to be rejected. It would generally be seen as unwise to rely on being able to climb above RVSM airspace to make the fuel plan viable.

## **Human Factors Analysis**

From our perspective, the Report lacks any significant analysis of why the pilot in command attempted the task in the manner that he did. The presentation of ‘facts’ alone is unhelpful, since the investigators must have some insight into what, at least in the raw form, appear to be an apparently uninformed approach to conducting a potentially risky flight.

It is difficult not to read between the lines that the operation was conducted on a “Lone Ranger” basis, unsupported by the operator and reliant upon such experience and knowledge as the pilot in command may have accumulated through his own efforts. Of course, if the operational climate was as disengaged as it might seem, then it raises the reasonable questions as to how it came to be that way, for how long had it existed, should CASA have reasonably been aware of it and was it

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<sup>20</sup> ATSB, Reliability Of Norfolk Island Forecasts, R20000040, issued 22 February 2000, at <http://www.atsb.gov.au/publications/recommendations/2000/r20000040.aspx>, accessed 10 October 2012

reasonably foreseeable that it may exceed the acceptable risk profile for that type of operation?

## Risk Management versus Minimum Regulatory Compliance

Perhaps the most obvious missing debate is one that AIPA would previously have considered to have been well settled – that meeting the minimum regulatory requirements may have little real impact on the management of the operational risks to achieve a safe flight.

Although the findings in this Report identify a Minor Safety Issue with the operator’s management of risk versus compliance, AIPA believes that the operator has indeed been ‘touched lightly’ in the analysis, with a seeming emphasis on regulatory compliance. To go back to the David Adams research paper<sup>21</sup> on human factors:

“...These evolutionary developments break away from the idea that a pilot operates in a vacuum and that accidents are events isolated from the system which nurtured them.”

“...It is also now about viewing accidents as part of the overall complex system which supported all the aspects of the operation. As such, it is about understanding how organisations manage risk and balance their safety obligations with their business imperatives...”

In that regard, AIPA is of the view that the Report fails to meet these ideals and misses a significant opportunity to add value to our understanding the interaction of the individual with the organisation and the resulting outcomes.

## The Pel-Air Safety Management System

Although not required by legislation, it is apparent that Pel-Air had instituted a Safety Management System (SMS)<sup>22</sup>. By any measure, it would appear to have been ineffective in achieving its primary purpose of managing operational risk. It seems useful to us to explore whether this event occurred as a consequence of an individual acting outside the organisational policies, procedures and culture or whether the risk management mechanisms were appropriate. Given the general thrust in Australian aviation towards SMS as a key safety process, AIPA cannot understand why the Report is silent in this regard.

## Real Time Advice of Environmental Changes

The Report says that “Nadi ATC did not, and was not required by any international agreement to, proactively provide the 0803 amended Norfolk Island TAF to the flight crew”<sup>23</sup>. The veracity of the statement has been queried on an anonymous aviation forum (upon which we normally would not place any significant credence,

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<sup>21</sup> David Adams, *op. cit.*

<sup>22</sup> ABC Four Corners, *Crash Landing*, background information, at [http://www.abc.net.au/4corners/documents/norfolkisland2012/CASA\\_Special\\_Audit\\_2009.pdf](http://www.abc.net.au/4corners/documents/norfolkisland2012/CASA_Special_Audit_2009.pdf) accessed 10 October 2012

<sup>23</sup> ATSB, Transport Safety Report, *op. cit.*, page 7

except that the operational ramifications potentially affect all forms of air transport operations). Part of the query states:

“...It is a requirement to let the Captain know about an amended TAF and there are international standards covering how delivery responsibility is allocated to the ATS units, however the question in this incident is whose responsibility was it to direct the information to the incident aircraft; Airservices Australia or Airways NZ?

One thing for sure it is not a Nadi ATC responsibility as Norfolk Island is located in the Auckland Oceanic FIR so, under normal circumstances, the responsibility should rest with Airways NZ. However, the NZ AIP (Gen 3.3) specifically excludes Norfolk Island as an Airways ATS responsibility because Norfolk Island is administered by Australia and, therefore, by implication the NZ AIP assumes it is an Airservices Australia responsibility to pass amended TAFs to aircraft operating or intending to operate at Norfolk Island...”<sup>24</sup>

AIPA is not in a position to verify these coordination agreements or lack thereof. However, the operational consequences of this situation seem obvious and we are at something of a loss to understand why such a fundamental operational coordination issue would not have been pursued as a safety matter. Indeed, as a further consideration, what are the implications for the effectiveness of Airservices Australia’s SMS? This is particularly the case in the unusual situation of Norfolk Island, which is an Australian aerodrome in an External Territory located in a foreign Flight Information Region but operating under Australian regulations and standards once an aircraft is within 12 nautical miles. If nothing else, the issue should be clarified

## The Safety Actions

It appears to us that none of the Safety Actions attributed to CASA have been completed. While that may be a function of the regulatory review program, it is not apparent what other mitigators have been put in place. As things stand, it is not clear from an industry compliance perspective if any safety improvement has been achieved.

It is also not clear from the Safety Actions attributed to the operator that there has been an acceptance of the need for greater real-time operational control and support of higher risk missions. Many of the actions taken are focused on how the crews will conduct themselves and may merely be indicative of an enhancement of the “we rely on the crew to make it work” approach.

## ABC ‘Four Corners’ and the Special Audits

AIPA is troubled by several aspects of the extended interviews with the Director of Aviation Safety<sup>25</sup> and the Chief Commissioner of the ATSB<sup>26</sup>.

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<sup>24</sup> See <http://www.pprune.org/dg-p-general-aviation-questions/468378-norfolk-island-ditching-atsb-report-17.html#post7407207>

<sup>25</sup> ABC Four Corners, *Crash Landing*, Interview with John McCormick, Director Aviation Safety CASA, at

The first area of concern is the repeated statements that nothing in the Special Audit was relevant to the accident. While AIPA does not have access to information other than that placed in the public arena by the ABC program 'Four Corners'<sup>27</sup> and, more recently, by Crikey in the blog 'Plane Talking'<sup>28</sup>, that information alone raises serious doubt about the organisational context of the accident.

The timing of the Special Audit conducted by CASA appears to indicate that the identified deficiencies, including an organisational climate that supervenes the compliance issues, existed at the time of the accident and, most likely, for some significant time previously. Consequently, it seems a little disingenuous to suggest that these organisational attributes were inconsequential. This apparent sidelining of the organisational aspects of this accident appears to be at odds with modern human factors theory. It also makes the focus on the failings of the 'last man standing' appear to be inappropriate and unbalanced.

AIPA recognises that there were legitimate concerns about the competence of the pilot to conduct the flight which ended so precipitately. But we also recognise that the areas in which he may have been deficient do not appear to be greatly out of step with the organisational climate or the operational culture. For us, that raises the question as to what opportunities for remediation, redirection or improvement for a pilot (or any employee) might have existed within that organisation? Critically, we don't know why the crew thought at the time that what they were doing and how they were doing it was normal and acceptable.

Importantly, the organisational climate and the operational culture of Pel-Air existed under the direct supervision of CASA and the assigned inspectors. Where will the sub-plot play out of the apparent failure of CASA to be aware of the situation within the complex Pel-Air organisation?

In the absence of countervailing evidence in the Report, the implication is that the system was fine, but the last line of defence inexplicably failed to achieve a safe outcome. The emerging evidence of the Special Audit is that the Director of Aviation Safety knew at the time of the ABC 'Four Corners' interview that the system, which in this case was dominated by the actions and inactions of CASA and Pel-Air, was a very long way from 'fine'. The continuation of the "it's only about the pilot" argument seems a little incongruous in the circumstances.

In the absence of a more complete picture of the protective and remedial action taken by CASA, it will be an easy mantra for the vocal minorities to adopt, and very

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[http://mpegmedia.abc.net.au/news/fourcorners/video/20120903\\_McCormick\\_288p.mp4](http://mpegmedia.abc.net.au/news/fourcorners/video/20120903_McCormick_288p.mp4) accessed 10 October 12

<sup>26</sup> ABC Four Corners, *Crash Landing*, Interview with Martin Dolan, Chief Commissioner ATSB at [http://mpegmedia.abc.net.au/news/fourcorners/video/20120903\\_Dolan\\_288p.mp4](http://mpegmedia.abc.net.au/news/fourcorners/video/20120903_Dolan_288p.mp4) accessed 10 October 12

<sup>27</sup> ABC Four Corners, *Crash Landing*, background information, *op. cit.*

<sup>28</sup> Crikey, *Plane Talking* with Ben Sandilands, at <http://blogs.crikey.com.au/planetalking/2012/10/11/atsb-pel-air-report-damned-by-foi-release-of-full-casa-audit/> accessed 11 October 12

difficult for the committed staff of CASA to repudiate, that CASA “played the man and not the ball” in this context.

Our second area of concern is the extent to which the *Privacy Act 1988* really applies to the actions and activities of CASA. In short, is CASA actually inhibited to the extent the Director suggested or is the privacy law a convenient excuse to avoid potentially awkward or unpleasant disclosures?

AIPA believes that it would be most helpful to debate, if not clarify, what information should be released to the public without resort to Freedom of Information requests, in what form the information may take, how the consequences to individuals and organisations might be balanced against the public interest and what distinction might be made between remedial and punitive action taken or initiated by CASA.

Our third area of concern relates to the conundrum of how the ATSB chooses what to place in the public domain via its investigation reports. The extended ABC ‘Four Corners’ interview with the Chief Commissioner of the ATSB reveals a little of the difficulty that the ATSB faces in finalising a Report. Clearly this investigation involved a high level of contested ‘facts’ and a great deal of ‘interested party consultation’ and AIPA recognises the criticality of confirming the factual basis of the investigation.

AIPA also supports the concept of ‘no-blame’ reporting for safety investigations. This is codified in subsection 12AA(3) of the TSI Act. That codification is not without its own difficulties, for example paragraph 12AA(3)(d) and how it may operate in practice rather than what was intended:

“(d) to allow any adverse inference to be drawn from the fact that a person was involved in a transport safety matter.”

AIPA believes that it is laudable if the ATSB was capable of preventing any consequences that might flow from the mere involvement of a person in a transport safety matter. We look forward to an explanation of what the original drafters had in mind when formulating the paragraph and how the ATSB was expected to comply.

However, what worries us most is the potential for ATSB management to presume pressure for the ATSB to report as close to the unembellished and unexplained facts as possible, or even to omit information to avoid any opportunity to infer blame or liability or make an adverse inference. Such minimisation may be seen to best satisfy paragraph 12AA(3)(d) in a legal sense, but in the real world may very well fuel the opposite result.

Those difficulties appear to have been recognised at the drafting stage by the inclusion of the very important rider that the ATSB is not to be prevented from carrying out its functions by the possibility that an unrelated party may infer blame or liability or make an adverse inference. As noted in our introductory remarks, AIPA has been concerned for some time that an over-emphasis on the preceding “no-blame” provisions has overshadowed, if not obscured, the importance of what might be described as that “don’t be too timid” rider.

In summary, it seems clear from both extended interviews that the Chief Commissioner and the Director of Aviation Safety share the same view that the

corporate arrangements within which the flight crew resided had no influence on the accident, despite CASA's own Special Audit revealing a concerning insight into the environment that existed at the time of the accident. In sharp contrast, AIPA agrees with the views expressed in the ATSB document *Organising for Flight Safety*, which states:

Organisational factors significantly influence flight safety outcomes since managers bear responsibility for the development of policy and oversight of its implementation. Hopkins (2005, p.135), in concluding an analysis of acceptable risk contends that, 'the quality of management will have a major effect on risk'. In particular, top management and the management of flight operations, set policies on the overall acceptable level of risk for the organisation. Consequent policies and decisions include the selection of suitable aircraft types and installed protective and safety devices, routes to be operated, aerodromes to be used (or avoided), and flight operating procedures. Most importantly, management can influence the level of risk presented by human factors, acknowledged as the most significant contributor to accident causation (Maurino et al. 1995). Management sets and applies policies in relation to standards for recruitment of flight crew, subsequent training, assessment of ongoing competency, and dismissal of individuals who do not achieve or maintain the set standards. Management also decides on rostering systems that affect levels of crew fatigue, in turn impacting on the level of human error (Helmreich & Merritt 2000).

Consequently, management has a large influence on organisational culture, which in turn plays a significant role in the safety outcomes of an airline. Perhaps most importantly, senior management makes critical policy decisions on the balance between 'protection and production' (Reason 1997), laying the foundation for resultant safety culture. Such policy guides organisational behaviour when members are making day-to-day decisions on the priority given to safety when this conflicts with 'getting the job done'.<sup>29</sup>

AIPA certainly has reservations about what we see as an overly narrow focus and a lack of balance in this Report. We are uncomfortable about what this may mean for future reporting if we are unfortunate enough to have a major airline incident. The threshold question must be:

Has the system improved as the result of this investigation?

From our perspective, the answer in this case appears to be no, or at best, not much. The corollary is:

Was this an opportunity missed to examine more broadly the system that placed the flight crew on that aircraft in the belief that they were adequately qualified and competent to achieve the task in whatever circumstances may arise?

The answer to that, we will leave to the Committee.

## THE SECOND TERM OF REFERENCE

The second TOR covers some very wide and disparate ground:

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<sup>29</sup> Dannatt R., Marshall V. and Wood M., 2006, *Organising for Flight Safety*, ATSB Research and Analysis Report, Canberra ACT, page 3



- (b) the nature of, and protocols involved in, communications between agencies and directly interested parties in an aviation accident investigation and the reporting process;

In some ways, we have already touched upon our general concerns above. However, it may well be that the genesis of those concerns is directly related to this specific TOR.

AIPA suggests that the more obvious arrangements such as MOUs may have less effect than many think, particularly in respect of inter-agency co-operation.

AIPA notes that sections 10 and 11 of the TSI Act establish the priority of the TSI Act in relation to other State and Commonwealth laws and that section 12AA includes at subsection (2) a requirement to cooperate with certain agencies and persons:

- (2) The ATSB also has the following functions:
  - (a) cooperating with:
    - (i) an agency of the Commonwealth, a State or Territory that has functions or powers relating to transport safety or functions affected by the ATSB's function of improving transport safety; and
    - (ii) a person who has, under a law of the Commonwealth, a State or Territory, functions or powers relating to transport safety or functions affected by the ATSB's function of improving transport safety; and
    - (iii) a national authority or other body of another country that has functions or powers relating to transport safety or functions affected by the ATSB's function of improving transport safety;

How is the co-operative balance struck?

## Has the ATSB been Pushed Aside?

To a certain degree, AIPA is alert to the possibility that this TOR enlivens a review of the implementation of the 2007 Miller Report on Aviation Safety Agency Relations. This becomes more apparent when examining the TORs for Miller's review:

### **"The Terms of Reference as announced by the Minister on 5 October 2007**

The review will consider the respective statutory roles and responsibilities of CASA and the ATSB and the relationship that has developed between the agencies and provide advice on matters including:

- (a) Whether the objects and provisions of the legislation (the Civil Aviation Act 1988 and the Transport Safety Investigation Act 2003 and relevant regulations and instruments made under these Acts) governing the operations of both ATSB and CASA give clear primacy to the objective of promoting the safety of passenger transport operations;
- (b) the adequacy of the current legislative provisions in ensuring that information which may contribute to improved aviation safety can be effectively and promptly obtained by agencies and communicated between the agencies;
- (c) the extent to which the interaction, or any overlap, of the respective Acts creates barriers to effective safety action, communication and interaction between CASA and ATSB;

- (d) the adequacy of current arrangements for the development and review of draft ATSB investigation reports, safety action reports and recommendations;
- (e) the adequacy and effectiveness of current arrangements for responses to draft ATSB investigation reports, safety action reports and safety recommendations;
- (f) the role and value of the Memorandum of Understanding (MOU) in place between CASA and the ATSB, and areas where the MOU can be strengthened or improved to achieve better working relationships between the agencies; and
- (g) potential areas for improved co-operation and better co-ordination of safety investigation and information sharing.

The Review will provide recommendations regarding ways of ensuring the most effective possible working relationships between the agencies given their statutory responsibilities.

A written report is to be provided to the Minister by 21 December 2007.”<sup>30</sup>

The Miller Review came about as a result of a letter to the Minister for Transport from the Queensland State Coroner who conducted the Inquest into the Aircraft Crash at Lockhart River<sup>31</sup>. The Findings of the Inquest reveal the basis of the Coroner’s concerns, set out in a section titled “Australian Transport Safety Bureau Investigation” and concluding with:

“...In any event, the extent to which reliance can be placed on the report is, in these proceedings, a matter for me to determine. While I might not necessarily agree with each and every conclusion drawn by the ATSB, I see no reason to conclude that there has been any deliberate skewing of the evidence: of necessity, not all information gathered in such an investigation can be included in the final report and reasonable minds may differ on what should be excluded without either being biased. Nor do I consider that the investigation model or framework led to any unconscious bias.

In prosecuting these allegations over ten pages of its submissions, CASA reminds one of the oft quoted observations made by Hamlet’s mother, Queen Gertrude, when viewing the travelling players. CASA’s submission seeks to down-play the allegation of bias by concluding with what seems to me a disingenuous assurance that they are not alleging that it was intentional but rather the result of structural problems with the ATSB’s new investigation system. That disclaimer is not consistent with the earlier attacks on the impartiality of the report which I have only briefly summarised here.

CASA had senior, expert legal representation who I’m sure would not have made such a sustained attack on the integrity of the ATSB investigation report without explicit instructions. In my view, these protestations are symptomatic of serious, ongoing animosity between the two organisations that needs redressing. I shall return to the issue in the recommendation section of these findings.”<sup>32</sup>

Our purpose in revisiting these matters is to illustrate the relationship that existed at that time. AIPA shares the view that the image of an enraged CASA publicly

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<sup>30</sup> Miller, Russell, *ATSB/CASA Review 2007 - Report to the Minister for Infrastructure, Transport, Regional Development and Local Government*, 21 December 2007, page 82

<sup>31</sup> Queensland Courts, Office of the State Coroner, *Inquest into the Aircraft Crash at Lockhart River*, delivered 17 August 2007, page 54

<sup>32</sup> Queensland Courts, *op. cit.*, pages 8-9

attacking the independent safety investigator was unacceptable on a number of levels. That the then Minister promptly responded by instituting the Miller review was critical to underpin the Australian public's faith in its aviation safety agencies, even though AIPA sees it as a lost opportunity to examine the interagency 'cat fight' on its merits. As Miller notes:

"...The Minister commissioned a review, not an inquiry..."<sup>33</sup>

and goes on to say in footnote:

<sup>4</sup> In its submission to the Review the ATSB urged the Review to address "the facts and the background to the Queensland State Coroner's recommendation and the serious safety issues it may indicate." The ATSB "strongly disagreed" with the Review deciding not to undertake a detailed re-examination of the facts that led to the State Coroner's recommendation to the then Minister following the Lockhart River Inquest. The Review regards the Terms of Reference as requiring it to understand the underlying causes of the tension to which the State Coroner referred, but only for the purpose of making recommendations on the statutory roles and responsibilities of the ATSB and CASA and the relationship that has developed between them. This, the Review has done. The Review is satisfied that the approach taken has permitted a full and frank understanding of the likely underlying causes of the friction that caused the State Coroner to write to the then Minister."<sup>34</sup>

AIPA suggests that this rather set the stage for what appears to have followed. At first glance, Miller seems to diminish with faint praise the standing of the ATSB in the aviation safety arena in favour of CASA as the regulator:

"...To be effective the safety system requires each government agency – the ATSB and CASA included – to work together in pursuit of a common safety goal. It relies upon a safety culture shared by the aviation industry and government, a willingness to embrace, impartially assess and implement measures to protect and improve the system, and appropriate respect for and co-operation with others that are part of the system.

4.3 As Australia's aviation safety system has improved over the years and our level of aviation sophistication increased, there may be a tendency to take the view that there is less to be learned from most of our aircraft accidents and incidents than was previously the case. The Review acknowledges that **the first line of defence in terms of managing day-to-day aviation safety risks rests with the operators and the regulator**. However, the accident investigator is an integral part of the aviation safety system because thorough, timely and authoritative investigation reports and safety recommendations inform the system about where it needs to focus its safety efforts.

4.4 Investigating each and every accident and incident may not necessarily improve the aviation safety system, but that does not mean the ATSB's role is diminished. The selectiveness with which the ATSB chooses accidents and incidents to investigate, the quality of its analysis and conclusions and the quality and practicality of the reports and safety recommendations it produces, have a direct influence on the value of its contribution to the Australia aviation safety system.

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<sup>33</sup> Miller, *op. cit.*, page 4

<sup>34</sup> *Ibid.*, footnote 4, page 4

4.5 **The ATSB can only make the contribution to improvements in aviation safety expected of it to the extent that its safety recommendations are accepted and actioned by relevant stakeholders** including the aviation industry and, importantly, CASA. Ultimately, the ATSB's contribution will be judged, not by the quality of its analysis, conclusions and safety recommendations per se, but by the influence those recommendations have on improving the aviation safety system.” [emphasis added]<sup>35</sup>

This latter view is pursued later in the Report:

“19.3If the ATSB prepares reports or makes safety recommendations that CASA and other stakeholders do not take up the ATSB will make little, if any, contribution to aviation safety. Its defining goal must therefore be to work with other members of Australia's aviation safety system – including CASA – to ensure that its reports are relevant and safety recommendations acted upon.”<sup>36</sup>

AIPA is aware that some, but not all, of the Miller recommendations have been explicitly enacted in legislative changes. However, we are also aware that much occurs away from the public eye. It seems to us that the ATSB has changed significantly since Lockhart River and appears to have drifted into a form of “institutional timidity”, to borrow from Justice Staunton’s description of CASA in the Seaview Royal Commission. It also seems that that “institutional timidity” owes much to Miller, since his message seems very open to an interpretation of “don’t mention it if you have little prospect of getting it changed”!

This particular ATSB Transport Safety Report has attracted significant adverse comment is some aviation bulletin boards and social media. One particular commentator<sup>37</sup> produced the following statistics (of which we have verified only a brief sample) comparing the US National Transportation Safety Board (NTSB) with the ATSB in support of the general AIPA thesis outlined above:

#### **Safety Recommendation Comparison**

##### **NTSB: (methodology)**

Safety Recommendations - Search & View

The NTSB issues safety recommendations as a result of its investigation of transportation accidents and other safety concerns. Recommendations usually identify a specific problem uncovered during an investigation or study and specify how to correct the situation. Letters containing the recommendations are directed to the organization best able to act on the problem, whether it be public or private.

##### **ATSB: (methodology)**

Safety issues are broadly classified in terms of their level of risk as follows:

Critical safety issue: associated with an intolerable level of risk and generally leading to the immediate issue of a safety recommendation unless corrective safety action has already been taken.

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<sup>35</sup> *Ibid.*, pages 5-6

<sup>36</sup> *Ibid.*, page 24

<sup>37</sup> See <http://www.pprune.org/dg-p-reporting-points/468048-senate-inquiry-hearing-program-4th-nov-2011-a-22.html#post7449967>

Significant safety issue: associated with a risk level regarded as acceptable only if it is kept as low as reasonably practicable. The ATSB may issue a safety recommendation or a safety advisory notice if it assesses that further safety action may be practicable.

Minor safety issue: associated with a broadly acceptable level of risk, although the ATSB may sometimes issue a safety advisory notice.

Safety action: the steps taken or proposed to be taken by a person, organisation or agency in response to a safety issue.

**Year: 2000**

NTSB Aviation related SR:	<b>144</b>	ATSB Aviation related SR:	<b>45</b>
NTSB SR addressed to FAA:	<b>119</b>	ATSB SR addressed to CASA:	<b>12</b>
Percentage of total:	<b>82.6%</b>	Percentage of total:	<b>26.6%</b>

**Year: 2005**

NTSB Aviation related SR:	<b>35</b>	ATSB Aviation related SR:	<b>19</b>
NTSB SR addressed to FAA:	<b>35</b>	ATSB SR addressed to CASA:	<b>6</b>
Percentage of total:	<b>100%</b>	Percentage of total:	<b>31.5%</b>

**Year: 2010**

NTSB Aviation related SR:	<b>168</b>	ATSB Aviation related SR:	<b>11</b>
NTSB SR addressed to FAA:	<b>143</b>	ATSB SR addressed to CASA:	<b>0</b>
Percentage of total:	<b>85.1%</b>	Percentage of total:	<b>0.0%</b>

A brief perusal of the UK Air Accidents Investigation Board Annual Safety Report 2011 shows similar characteristics to the distribution of Safety Recommendations from the NTSB, in that the vast majority of addressees are regulatory agencies or aircraft manufacturers:

**Recommendations made in 2010 by Addressee:**

<b>Addressee</b>	<b>Number</b>
Airbus	5
Avcraft Aerospace GmbH	1
Belgium Civil Aviation Authority	1
Boeing	4
Bombardier Aerospace	2
British Airways PLC	2
Cessna Aircraft Company	3

Civil Aviation Authority	19
Diamond Aircraft Industries	3
Directorate General of Civil Aviation Turkey	1
EASA	28
Eastern Caribbean Civil Aviation Authority	2
Embraer	1
Ethiopian Civil Aviation Authority	2
Eurocopter	1
Extra Aircraft Company	1
FAA	17
Flight Design GmbH	1
Flybe	2
Government of Gibraltar	1
Heathrow Airport Ltd	3
International Civil Aviation Organisation	3
London City Airport	2
NATS	1
Netjets Transportes Aeros	1
No1 Elementary Flying Training School, RAF	1
P&M Aviation	1
Pratt & Whitney Canada	1
Raytheon Aircraft Company	1
Royal Airforce	8
Ryanair	1
Serbian Civil Aviation Department	1
Transport Canada	6

Note: Please note that a number of Safety Recommendations are made to more than one Addressee<sup>38</sup>

As outlined in our comments on the accident Report, AIPA is of the view that the ATSB appears to have lost its way in terms of the vastly improved relationship with CASA. While we understand the logic of Miller’s statement:

“Ultimately, the ATSB’s contribution will be judged, not by the quality of its analysis, conclusions and safety recommendations per se, but by the influence those recommendations have on improving the aviation safety system...”<sup>39</sup>

<sup>38</sup> See AAIB, Annual Safety Report 2011, page 10 at [http://www.aaib.gov.uk/cms\\_resources.cfm?file=/Annual%20Safety%20Report%20011.pdf](http://www.aaib.gov.uk/cms_resources.cfm?file=/Annual%20Safety%20Report%20011.pdf)

<sup>39</sup> Miller *op. cit.*, page 6

we find it difficult not to conclude that it is “the quality of its analysis, conclusions and safety recommendations” that have paid the price. By way of balance, however, we also believe that it is inappropriate to judge ATSB against the inaction of those to whom the safety recommendations are addressed!

## **Is CASA’s Role in the Aviation System being Adequately Scrutinised?**

While AIPA may suspect that the Miller Review inexorably shifted the CASA-ATSB relationship, it appears to have largely been a one-way street. In following on from his comments on the ATSB, Miller says of CASA:

“19.4CASA will not succeed in making the contribution to aviation safety expected of it unless, in relation to ATSB investigations, it:

- engages actively with the ATSB during investigations, providing expert assistance where appropriate;
- co-operates fully with ATSB investigations by providing information required for the investigation in a timely fashion;
- co-operates fully with the ATSB by providing timely responses to the ATSB when asked for comment;
- makes available sufficient time and resources to respond meaningfully to safety issues identified by the ATSB in its reports and safety recommendations; and
- seriously considers, and where appropriate follows, the ATSB's safety recommendations, careful to ensure that, where it decides not to take up a safety recommendation, it discusses its reasons with the ATSB and that its public response is in terms appropriate to a healthy relationship between the two agencies.

19.5 If CASA does not invest enough in its relationship with the ATSB to draw benefit from the ATSB's work, CASA will not be able to maximise the contribution to air safety expected of it...”<sup>40</sup>

While CASA has been extremely busy trying to get the long-awaited legislative changes up and running, the timeliness of the CASA response to Safety Actions wouldn’t satisfy the Miller ambitions. On the other hand, the complete absence of ATSB commentary on the regulatory scheme and CASA’s regulatory activities begs the question about the level of scrutiny now being applied to CASA.

AIPA believes that the ATSB pendulum has certainly passed the middle. We are not saying that CASA is always wrong and, clearly, we are not saying ATSB is always right. What we are saying is that we can see no justification for the present silence when it comes to the regulatory framework and its application.

## **Is the MOU Between the ATSB and CASA Contributing to the Problem?**

With one exception, AIPA does not view the current MOU as a contributor to the issues we have raised.

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<sup>40</sup> *Ibid.*, pages 24-25

The exception relates to the handling of safety actions. The MOU states:

### 5.3 Safety action

5.3.1 The ATSB Understands actions may be taken by CASA in response to safety issues during the course of an ATSB or CASA investigation, and the ATSB will include this information in the investigation report to the extent it is practicable to do so. **The ATSB encourages safety action that obviates the need to make safety recommendations.** [emphasis added]<sup>41</sup>

AIPA raises the point that this approach could be seen as a way to negotiate away the recording of actions that the ATSB reasonably believes should have been instituted before the event and that they would otherwise have recommended on the public record. This may be unintended or it may be symptomatic of an excessive pursuit of the “no blame” ideal. Furthermore, it is most likely to make reports appear more superficial than the quality of the underlying investigation deserves, thus creating an unnecessary reputational risk.

AIPA notes that the current MOU does not go anywhere near as far as Miller recommended in terms of the ATSB providing CASA with far greater information than has traditionally been the case. However, it is clear to us that the drive by CASA for ATSB to release previously protected information continues, as we discuss later.

### An Aside on Other ATSB MOUs

It appears that a common, but neither universal nor complete, approach to the inter-agency cooperative requirement is to negotiate MOUs with certain organisations. However, it is not clear how important these MOUs are to the ATSB in cementing inter-agency relationships. For example, the interface with State Coroners is specifically dealt with in the TSI Act and while an MOU has been negotiated with the Chief Magistrate of Tasmania as the State Coroner, it hasn't spread to the other State and Territory Coroners. In another example, there is an MOU with Airservices Australia on the basis that “...It is acknowledged that Airservices also has regulatory and associated internal investigatory roles in relation to its safety functions...” even though there is no apparent head of power in either the *Air Services Act 1995* or the associated Regulations to conduct investigations.

AIPA does not propose to comment in this submission on the MOU between the ATSB and the Department of Defence or on any Commonwealth-State arrangements.

### Directly Interested Parties

AIPA has previously expressed concern as to the extent that ‘directly interested party’ (DIP) consultation may impact on the timeliness and quality of the final report. We acknowledge the necessity to confirm facts and to identify errors of

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<sup>41</sup> ATSB, *Memoranda of Understanding between the Australian Transport Safety Bureau and the Civil Aviation Safety Authority*, at [http://www.atsb.gov.au/about\\_atsb/memoranda.aspx](http://www.atsb.gov.au/about_atsb/memoranda.aspx) accessed 10 October 2012, page 8



fact. We also fully support the concept of providing a measure of procedural fairness to people involved in events subject to investigation.

On the other hand, the DIP process does not demand consensus and should not provide a vehicle for pressure to be brought on investigators or the ATSB in general. Undoubtedly, the Committee will explore in detail each element of the process that led to 33 months elapsing between accident and publication and, in particular, the contribution of the DIP process.

AIPA notes that, particularly for the pilot in command in this specific event, the ABC ‘Four Corners’ program raises significant questions about the success or otherwise of the DIP process. In the normal context, i.e. where a report does not attract the interest of the Senate, we remain unsure of the process whereby a DIP can raise a voice of dissent. While it may be suggested that the ‘no-blame’ approach should avoid the need for procedural review, the reality is that mistakes of fact and erroneous analysis can occur and the ATSB is, through no fault of its own, incapable of preventing “any adverse inference [being] drawn from the fact that a person was involved in a transport safety matter”.

## THE THIRD TERM OF REFERENCE

In some ways, the third TOR puts CASA back in the spotlight:

- (c) the mechanisms in place to ensure recommendations from aviation accident investigations are implemented in a timely manner; and

Safety recommendations normally apply to Government agencies, air navigation service providers, manufacturers, operators, maintenance organisations or third party providers of training, people or specialist services. Despite Miller’s “influence’ test for the ATSB, the reality is that a non-regulatory body such as the ATSB needs a ‘friend with muscle’ to ensure that recommendations are properly implemented. CASA can generally provide that ‘assistance’ where legally empowered to do so or, in other cases, through cooperative arrangements with similar regulators.

The problem arises when CASA does not act in a timely manner or, in some cases, not at all.

AIPA presumes that, if and when the ATSB fails to adequately ‘influence’ CASA to do something that it undertook to do, the matter would be resolved by the Secretary of the Department of Infrastructure and Transport (DIT) in the first instance and eventually by the Minister. Ultimately, given the constant tensions of priorities and resources, the resolution of the issue will be driven only by the politics of the inaction, i.e. as a function of the length and strength of public attention.

One point worth reinforcing from a previous comment relates to promising to implement something just to avoid a safety recommendation being made – in that case, is the proposed action tracked by anyone?

## THE FOURTH TERM OF REFERENCE

As a related matter, AIPA is concerned about safety reporting and the impact of proposals to grant CASA greater access to information reported to the ATSB.

Specifically, we are concerned about the proposed Transport Safety (Confidential Reporting Scheme) Regulations 2013 in which it is proposed, among other things, to provide CASA with open access to mandatory notifications of prescribed aviation events.

Such access is not currently permitted.

AIPA is not convinced that such a substantial policy shift through changes to subordinate legislation provides appropriate Parliamentary scrutiny. We believe that the ATSB is attempting through legislation to abrogate a reporter's common law privilege against self-incrimination. We believe that the current proposal will adversely affect the free flow of safety-related information.

## Reporting of Safety-related Information in Australia

This whole area is complex, often emotional rather than rational and, in AIPA's view, not well explained by the architects of change. The core of the problem is balancing the rights of individuals (normally the emotional bit) against the needs of society (usually the rational bit). Although narrowly focused, this Committee's Inquiry into *Pilot Training and Airline Safety including consideration of the Transport Safety Investigation Amendment (Incident Reports) Bill 2010* touched upon some of the issues.

The individual right is the privilege against self-incrimination. The Australian Law Reform Commission (ALRC) clarifies the privilege:

Although broadly referred to as the privilege against self-incrimination, the concept encompasses three distinct privileges: a privilege against self-incrimination in criminal matters; a privilege against self-exposure to a civil or administrative penalty (including any monetary penalty which might be imposed by a court or an administrative authority, but excluding private civil proceedings for damages); and a privilege against self-exposure to the forfeiture of an existing right (which is less commonly invoked).<sup>42</sup>

AIPA does not intend to indulge in a substantive legal debate, but offers the following commentary to set the scene for what generates some of the emotional aspects of safety reporting.

Justice Margaret Wilson had the following to say (including extensive cross-referencing not repeated here) in a speech to the Queensland Bar Association conference in 2006:

1. "A cardinal principle of our system of justice", a "bulwark of liberty" and "fundamental to a civilised legal system": these are some of the ways our highest Courts have described the privilege against self-incrimination. It is a substantive right entitling a person to refuse to answer any question, or produce any document, if the answer or the production would tend to incriminate that person.

...

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<sup>42</sup> ALRC, 2006, *Privilege in respect of self-incrimination in other proceedings*, in Uniform Evidence Law (ALRC Report 102) at <http://www.alrc.gov.au/publications/15.%20Privilege%3A%20Other%20Privileges/privilege-respect-self-incrimination-other-proceedings> accessed 10 October 2012

6. The privilege against self-incrimination is now recognised as an important individual human right – that is, one which may be asserted by natural persons but not corporations. It can apply outside judicial proceedings, in non-judicial inquiries and investigations. But the assertion of that right can impede other legitimate interests, such as the protection and enforcement of an opposite party’s civil rights and the exercise of investigative and regulatory powers by relevant authorities. In recent years law reform agencies and Legislatures have given increasing attention to striking the right balance between such competing interests.

and concluded with:

“21. The Lindgren Committee submitted to the Australian Law Reform Commission’s inquiry into Uniform Evidence Law that the Uniform Evidence Acts should be amended to abrogate the privileges so that an order for disclosure must be obeyed, but that there should be use and derivative use immunities given. In a subsequent submission the Committee suggested that the privileges should be abrogated in relation to documents in existence before a disclosure order was made; that a person should not be able to resist a disclosure order at any stage of a civil proceeding in reliance on either of the privileges, and that a certification procedure should be introduced (except in relation to pre-existing documents or things). Ultimately the ALRC and other Commissions undertaking the review recommended –

- (a) that the privileges not be available in respect of orders made in civil proceedings requiring a person to disclose information about assets or other information, or to attend court to give evidence regarding such assets or other information, or to permit premises to be searched; and
- (b) that there should be a use immunity in relation to documents created or information supplied pursuant to the court order (but not a pre-existing document or thing) .

22. The Queensland Law Reform Commission’s report was finalised before the second submission of the Lindgren Committee. It did not support the abrogation of the privileges in relation to disclosure orders, saying that the provision proposed by the Committee would require rigorous examination particularly to determine whether the abrogation was justified and appropriate in accordance with the QLRC recommendations in its report on The Abrogation of the Privilege against Self-Incrimination, and whether there were exceptional circumstances justifying a derivative use immunity.

23. A basic philosophical divide seems to underlie the differing approaches of the ALRC and the QLRC to the privilege against self-incrimination and the penalty privilege. It is not just a question of the efficacy and convenience of a certification procedure. The QLRC regards the privileges as so important that they can be abrogated only by legislation specific to the instance in hand, while the ALRC (and others who support the Uniform Evidence Acts approach) give more weight to a generalised recognition of the need to protect and enforce other legitimate interests, such as an opposite party’s civil rights and the exercise of investigative and regulatory powers by relevant authorities. These are matters of policy, for decision by the respective Legislatures. As yet, those Legislatures have not signalled their responses to the reports, which are still under consideration.”<sup>43</sup>

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<sup>43</sup> Wilson, Margaret J, Aspects Of Privilege: Self-Incrimination, speech to the Bar Association of Queensland Conference, 04 March 2006

The rational argument is expressed by Miller in his comments about information sharing and the concept of “restricted information” as used in the TSI Act:

“24.4 The broad range of information covered by the definition of the term "restricted information" and the limits on its disclosure leads to unnecessary tension between the ATSB and CASA, and seems to work against the interests of aviation safety. Two circumstances need to be considered. The first is when, in the course of an investigation the ATSB discovers information that may lead to the conclusion that allowing something to continue presents a serious, and possibly imminent, risk to air safety. The second is where information evidences the occurrence, or potential occurrence, of an unsafe act but not necessarily a serious and imminent risk to air safety.

24.5 The concern of the Executive Director is that, if the information is disclosed to CASA it might be used for disciplinary, civil, administrative or criminal proceedings thereby affecting the willingness of industry and the public, in the future, to openly provide information to the ATSB. The Executive Director also expressed concern that disclosure of restricted information to CASA could enable adverse inferences to be drawn from the fact that a person is subject to an investigation.

24.6 The concern for CASA is that, if it is given information it cannot use or disclose, especially where there is a serious and imminent threat to safety, it is powerless to act immediately in the interests of aviation safety. Although this is unlikely to arise often, it has arisen in the recent past and when it does arise the consequences for the safety of passengers if the matter cannot be dealt with swiftly are dire.”<sup>44</sup>

Miller continues to discuss the core of the dilemma, but in the generic terms of information confidentiality rather than the specifics of the consequences of breach of confidentiality on individual rights:

#### **“25. Key considerations**

25.1 It is when these two competing concerns come into conflict that difficulties arise. A policy decision is required on whether the long term benefit of keeping safety related information confidential is to be preferred over the more immediate need to ensure that lives are not lost. In the Review's opinion, the immediate safety need must take priority.

25.2 There are a number of considerations to be taken into account in determining how information gathered in the course of an investigation should be used, and the circumstances in which it should be disclosed. While not everyone would agree that the following list represents the most important of these, this list is based on the considerations identified most frequently to the Review as being relevant to the question of information sharing between the ATSB and CASA:

- there needs to be a free flow of information to accident investigators in the interests of discovering the likely causes of accidents and incidents and learning relevant safety lessons from them;
- this requires that, as a matter of general principle, information should not be disclosed for the purposes of disciplinary, civil, administrative or criminal proceedings, except in limited, clearly defined circumstances. Continued cooperation of industry and the public in future flows of information depends on this;

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<sup>44</sup> Miller, *op. cit.*, pages 39-40

- not all information collected in the course of an investigation needs to be protected. Much of the information is technical or already in the public domain. Not all information is of an evidentiary quality for the purposes of disciplinary, civil, administrative or criminal proceedings against individuals. Information that does not need to be protected should be able to be disclosed by the investigator to the regulator in a useful form and timely manner;
- there is a balance to be struck, in the interests of aviation safety, between protecting information that could be used for disciplinary, civil, administrative or criminal proceedings and disclosing information to CASA where there is a serious and imminent risk to air safety; and
- where there is a serious and imminent risk to air safety, restricted information provided to CASA should be in a form that can be used by CASA for the purpose of enhancing, maintaining and promoting aviation safety, but not for the purposes of disciplinary, civil, administrative or criminal proceedings. CASA should have access to that information as soon as possible so that it can take immediate safety action, consistent with its objects which include "preventing aviation accidents and incidents".<sup>45</sup>

So what will draw the emotional towards the rational in this pursuit of the free flow of safety-related information?

### The Tie that Binds – Trust

Interestingly, everyone in the debate has the same mantra. If it were not for the mindless repetition of that other mantra “safety is our highest priority”, AIPA believes that the safety information mantra should be the glue that joins the emotional and rational debates about the use of safety-related information. That safety information mantra is “it’s all about trust”.

The Executive Summary and the Introduction to Australia’s 2007 Working Paper to the ICAO Technical Commission<sup>46</sup> encapsulates the proposition well:

“Safety investigation is dependent on a free-flow of information from the aviation industry that it serves. This freeflow of information is founded on trust — trust that the information divulged will not be used inappropriately for punitive purposes, trust that the information will be afforded the requisite confidentiality, and trust that the information will be used for the purpose of advancement of aviation safety. That trust is based, amongst other things, on industry consultation that leads to appropriate legislated protections for the safety information, with clearly defined exceptions. These requirements lie behind the operative functions of safety investigation detailed in Annex 13 — *Aircraft Accident and Incident Investigation*.”

and

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<sup>45</sup> *Ibid.*, pages 40-41

<sup>46</sup> ICAO, *Enhancement of Fundamental Principles Concerning Confidentiality and the Non-punitive Nature of Safety Information*, Technical Commission Working Paper A36-WP/126, 31 August 2007

## “1. INTRODUCTION

1.1 A successful aviation safety reporting and investigation system is based on a strong foundation of trust between the accident investigation authority and the aviation industry it serves. Trust engenders a free-flow of safety information, this being the foundation on which aviation safety is to be progressed. That trust is based, amongst other things, on appropriate legislated protections for the safety information regarding confidentiality and prevention from punitive use. Any exceptions to the protections must be clearly defined and operate in a manner that strikes an appropriate balance between the need for disclosure and the need to protect the safety information which underpins the safety reporting and investigation system.

1.2 Annex 13, Standard 3.1, identifies the principle that safety investigation of an accident or incident is to be non-punitive. Standard 5.12 requires that certain records in an accident investigation be protected from disclosure. Attachment E, adopted in November 2006, provides guidance for the protection of safety information from inappropriate use. Standards 3.1 and 5.12, as well as Attachment E, acknowledge that the vast majority of aviation accidents and incidents are the result of human error where no malice is intended and that protections for information from the reports and investigations of these events are appropriate. Australia strongly supports this ideology but is also concerned to ensure that the protections do not have the result of inadvertently inhibiting the advancement of safety. The protections need to be clear and workable. The aim of this paper is to promote the need for the protection of sensitive safety information while arguing that more work may be required to ensure they can be implemented.”

AIPA believes that the development, and perhaps more importantly, the maintenance of that essential trust are the greatest roadblocks to ensuring, if not enhancing the free flow of safety-related information.

Abrogation of privilege by regulation without Parliamentary scrutiny, disallowance procedures notwithstanding, will do absolutely nothing to build trust with the regulator and will, as collateral damage, tarnish the ATSB even further.

We see the aviation industry and the regulator pulling apart philosophically in regard to the use of safety-related information. That separation is an emotional response to a palpable lack of trust, not so much with the courts or the Australian legal system in general, but with the regulator and how it is perceived to go about its business. AIPA readily acknowledges that the issue is about perception more than actuality, a gap that we are optimistic can be closed with a far better communications strategy.

Unfortunately, closing the gap certainly won't be helped by the issues surrounding the Pel-Air accident.

### **Just Culture – Born of a Failure of Trust**

The industry is driving hard towards legislating for greater protections for safety-related data and for reporters of safety-related matter. Suffice it to say that “Just Culture” has its antecedents in combatting the adverse outcomes of a punishment culture on reporting culture – a philosophical breach of trust.

An excellent treatment of “Just Culture” and the legislative issues can be found in the paper titled “*Criminalisation of Air Accidents and the Creation of a Just Culture*”, which won the European Air Law Association prize in 2010 for Mildred Trögeler:

“ Safety is a very complex, multi-faceted activity that encompasses all fields of aviation and affects every single individual involved in aviation. Accidents are the result of an undesirable chain of events. To prevent the repetition of such events, the investigation process requires an effective safety occurrence reporting system, which means that all relevant accidents and incidents are reported and comprehensively documented by aviation professionals. Therefore, aviation professionals must be dedicated and contribute fully to the safety investigation of the reported occurrences...”

In the aviation community, there is increasing concern over a perceived trend of authorities to initiate criminal prosecutions against aviation professionals. The fact that incident reports and material submitted in the course of safety investigations often find their way into separate judicial investigations has led to an increased fear amongst aviation professionals that routine operational decisions could now become the basis for criminal prosecutions. This is detrimental to aviation safety as it could, in turn, lead to a reduced willingness of occurrence reporting by those involved in such incidents or accidents. The chilling effect which potential prosecution has on openness and the flow of safety information following an aircraft accident or incident has an adverse effect on aviation safety and prevents lessons from being learned. This dilemma has impeded the effectiveness of safety investigations for decades.”<sup>47</sup>

“The key of a Just Culture is to strike the right balance between the need to improve aviation safety and the recognition of the judicial system’s legitimacy to investigate and prosecute the committed crimes. At the heart of the establishment of a Just Culture lies three core principles.

Firstly, the determination of appropriate safeguards which will ensure that individuals involved in safety investigations are not punished for their reported actions or omissions. Secondly, the protection granted shall not apply to cases where unacceptable behaviour is involved such as wilful misconduct or gross negligence. Thirdly, the improvement of aviation safety should be achieved by encouraging full contribution to safety investigations.

To ensure that the Just Culture concept works out effectively in practice, its principles have to be laid down in a suitable regulatory framework, which provides the indispensable legal certainty...”<sup>48</sup>

and finally

“...A Just Culture does not call for absolute protection of aviation safety at the expense of the proper administration of justice but for the balancing of conflicting interests; namely besides the proper administration of justice and the enhancement of aviation safety, the compliance with privacy laws, the protection against self-incrimination and the acceptance of FOI rights.

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<sup>47</sup> Trögeler, Mildred, 2010, *Criminalisation of Air Accidents and the Creation of a Just Culture*, European Air Law Association at <http://www.eala.aero/library/Mildred%20Trögeler%20EALA%20prize.pdf> accessed 10 October 2012, page 1

<sup>48</sup> *Ibid.*, page 1

There is general agreement that aviation professionals should not be granted immunity against prosecution. Instead, criminal liability should be restricted to cases where the person involved has breached a legal obligation and acted in a grossly negligent manner or intentionally and where the human failure was not triggered by system-induced failures...<sup>49</sup>

Although arguably born from an environment of distrust, the “Just Culture” model has become a defence against the consequences for individuals of a misuse of safety-related information. The problems identified by Trögeler in the European context are also present in the Australian context. The CASA magazine ‘Flight Safety Australia’ published in 2011 an excellent article called “Accidental Justice”<sup>50</sup> that canvasses many of the issues. In that article, Dr Jonathan Aleck brings a sobering perspective to the compatibility of “Just Culture” models with existing legislative frameworks:

“Aleck sees ‘just culture’ as an organisational, rather than a legal ideal. ‘Organisations can do just culture. If you say, “our organisation has a ‘just culture’ ethic and it means this”, then everybody knows what that organisation means by ‘just culture’, even if another organisation might characterise the idea differently.

‘But you’ve got to be careful when you start saying ‘just culture’ should infuse the relationship between the industry and the regulator. We work to a much higher bar – the more demanding standards embraced by the rule of law and the principles of natural justice.

‘It’s dangerous to import uncritically what is a useful ethical principle in accompany environment into the relationship between citizens and their government.’<sup>51</sup>

AIPA has the utmost faith in Dr Aleck as an ethical, intellectual and practical regulator and we certainly respect his advice that the “Just Culture” model may be inherently incapable of being imported into current Australian law. On the other hand, if every frontline CASA employee espoused Dr Aleck’s view of what it is to be a regulator, then defensive behavioural models would be unnecessary. Unfortunately, none of CASA’s selection, training or control processes is likely to get us there in any reasonable timeframe, so we need alternatives.

One option may be to look to other jurisdictions for ways of reducing, or even removing, that incompatibility between behavioural and legislative protection.

## The Danish Model

Earlier this year, AIPA members under the banner of the Australian Airline Pilots’ Association (AusALPA) made submissions to the ATSB as part of the consultative process of the proposed Transport Safety (Confidential Reporting Scheme) Regulations 2013. In that submission and the associated Discussion Paper (attached to this submission as Attachment 1 and 2), the example of Denmark was

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<sup>49</sup> *Ibid.*, page 39

<sup>50</sup> CASA, *Accidental Justice*, Flight Safety Australia, September-October 2011, pages 8-15

<sup>51</sup> *Ibid.*, page 13



put forward as a model for revised legislation that may well take the heat out of the abrogation of privilege debate. In part, the AusALPA submission said:

“Fortunately, there already exists “landmark legislation and by far one of the best in the world in terms of creating a ‘just culture’ ” (EPRC, 2006, p. 57) that Australia could adapt to our own laws and regulations. Under regulation BL8-10 (Civil Aviation Administration - Denmark, 2009), Denmark introduced a single mandatory, non-punitive, and yet strictly confidential occurrence reporting system. Individuals are required to report a prescribed list of occurrences and encouraged to report other safety events through, where applicable, their employer who is required to forward the report and any investigation to the regulator. A failure to report is punishable by fines while reporters receive immunity from punishment for the reported occurrence (with exceptions for sabotage and negligence due substance abuse), provided that they have been full and open about the occurrence. Details of individual reports remain confidential, with individuals breaching confidentiality exposed to criminal offences. However, the data storage arrangement retains personal details for five years, allowing follow up investigations and verification by the regulator. In return for exemption from freedom of information (FOI) requirements, the Danish regulatory authority is required to publish six monthly statistical summaries based on the de-identified data from occurrence reports.

The result of this legislation has been a stunning improvement in Denmark’s reporting culture. Reporting rates increased more than ten-fold (EPRC, 2006, p. 57), with reporting of loss of separation incidents, mandatory both before and after the change, tripling (Norbjerg, 2003, p. 157). In a survey on air traffic controller (ATCO) reporting cultures the EPRC identified that Denmark:

- Had one of the best reporting cultures in the world,
- Demonstrated strong political support from employees and management,
- Strong peer support coupled with a rejection of antisocial behaviours, while
- Incidents are treated as worthwhile learning opportunities. (EPRC, 2006, p. 58)

SMSs need the ability to integrated occurrence reports with other SMS sources such as flight data analysis events. Under the Danish system, the regulator sees not only the report but also the SMS activities in response to a report. The need for separate reporting schemes, remote from SMS activities, such as REPCON and ASRS, is reduced.”

AIPA believes that pushing forward with the Transport Safety (Confidential Reporting Scheme) Regulations 2013 in pursuit of the Miller recommendations without regard to the consequences of abrogating the reporter’s common law rights will be extremely damaging to the cause of aviation safety in Australia. Until CASA has consistently shown that it exercises its powers for remedial and protective purposes only and certainly not for retribution and punishment, there will be no trust.

Unfortunately, AIPA sees that task as possible (and most desirable) but recognises that CASA faces a marketing nightmare under its current practices of dissemination of information to the public. Given the high personal cost that CASA action may bring to our members, AIPA is reticent to give up any current protections in return for a mere promise that “we’ll be model safety regulators”.

### **Recommendation**

AIPA recommends that the proposed Transport Safety (Confidential Reporting Scheme) Regulations 2013 not be made until appropriate Parliamentary scrutiny has been applied to the legislative abrogation of the privilege against self-incrimination and the likely consequences.

### **Recommendation**

AIPA recommends that the legislative arrangements to provide a balanced approach to aviation safety reporting made by Denmark should be examined for their utility as a model for Australian legislative reform.

-- END --

- Attachments:
1. AusALPA Submission to the ATSB “re: Enhanced Aviation Mandatory and Confidential Reporting” S05-0009 dated 27 July 2012 (with Appendix 1)
  2. AusALPA Discussion Paper “Enhanced Aviation Mandatory and Confidential Reporting” Ref No S05-0009, July 2012

# APPENDIX 1

AusALPA response to ATSB Enhanced Aviation Mandatory  
and Confidential Reporting

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27 July 2012

**By Electronic Transmission**

Mr Steven Young  
Australian Transport Safety Bureau  
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**CIVIC SQUARE ACT 2608**

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Our Ref: S05-0009

Dear Steven,

**Re: Enhanced Aviation Mandatory and Confidential Reporting**

On behalf of the Australian Airline Pilots' Association (AusALPA), thank you for providing us with the opportunity to review the three changes to the ATSB's mandatory and confidential aviation reporting systems.

AusALPA consists of the Australian and International Pilots' Association (AIPA) and the Australian Federation of Air Pilots (AFAP) and represents more than 5000 professional pilots within Australia on safety and technical matters.

AusALPA takes an active stake in the Australian aviation industry, participating in inquiries in the Australian Aviation sector and contributing members to various industry forums. AusALPA is also an active member of the global pilot body, the International Federation of Airline Pilots' Association (IFALPA), which represents over 100 000 airline pilots internationally.

AusALPA has recently reviewed the proposed changes and would like to put forward following comments for the ATSB's consideration.

**Summary**

Aviation safety and operational management practises are evolving and occurrence reporting systems and obligations must evolve to meet the needs of current practise. The provision of safety information by frontline personnel to operators, investigators and regulators is a key source of safety data, which is often unobtainable by other safety feedback mechanisms. However, occurrence-reporting systems can fail if

there is a perception that the information will be misused. Any changes in reporting legislation and practises must be enacted only after full consultation and careful consideration of different perspectives, to ensure the outcome does not adversely affect the reporting culture.

This submission addresses the Australian Transport Safety Bureau's (ATSB) proposed changes to Australia's mandatory and confidential aviation reporting systems, namely:

A proposal to improve the ATSB's and the Civil Aviation Safety Authority's (CASA) access to mandatorily supplied notifications of aviation accidents and incidents;

The draft Transport Safety Investigation Amendment Regulations 2012 (No. 1) which clarify what aviation accidents and incidents must be reported; and

The draft Transport Safety Investigation (Voluntary and Confidential Reporting Scheme) Regulation 2012 which would replace the current REPCON confidential reporting regulations.

#### **1. Proposal to Improve the ATSB's And CASA's Access to Mandatorily Supplied Notifications of Aviation Accidents and Incidents**

AusALPA acknowledges and supports the need for CASA to be informed regarding risks within aviation. AusALPA, however, is very concerned by the direction of the proposal and considers that it may have detrimental implications on occurrence reporting practises by persons and organisations involved in aviation. Additionally, AusALPA is concerned by some significant misinterpretations in the ATSB consultation paper 'Enhanced Aviation Mandatory and Confidential Reporting' (ATSB, 2012) regarding international best practise in occurrence reporting schemes.

Fundamentally, CASA and the Commonwealth Director of Public Prosecutions have administrative and punitive powers as laid out in its enforcement manual:

*"CASA may also act to compel authorisation holders to comply with safety standards, or to prevent them from continuing to breach those standards, through processes involving the variation, suspension or cancellation of authorisations, the imposition of conditions on authorisations and by entering into, and where necessary, enforcing voluntary undertakings.*

*In addition, CASA has the power to initiate action with a view to penalising persons for contravening regulatory requirements, although the pursuit of such action is in the hands of the Commonwealth Director of Public Prosecutions (CDPP). From CASA's perspective, the implementation of such punitive action as may be necessary and appropriate is meant to deter those persons (specific deterrence) and others (general deterrence), from contravening the safety standards specified in the legislation in the future, by encouraging them to reflect on the consequences of their conduct" (CASA, 2009, para 2.5).*

With "strict liability" provisions applying to numerous Australian aviation laws and regulations disclosing, via a mandatory report, that an event occurred is self-incrimination.

While the Aviation Self Reporting Scheme (AUS ASRS) enables some protection from administrative action for inadvertent regulatory breaches, AUS ASRS contains fundamental flaws from the perspective of encouraging open reporting.

ASRS reporters must identify the regulations they have inadvertently breached. Since only inadvertent regulatory breaches receive protection, there is a likelihood that reporters to the mandatory scheme will be unaware of regulatory breaches discovered during any investigation process. In contrast, the similar, and very successful in terms of receiving reports, US Aviation Safety Reporting System (US ASRS), provides protection from civil penalties and certificate suspensions provided the occurrence, which involved the inadvertent regulatory breach, is reported (Federal Aviation Administration, 1997).

The proposal to provide CASA with open access to mandatory reports may result in AusALPA recommending its members to seek legal advice prior to submitting a mandatory report, primarily to determine whether the report is required, and that the contents of the report protect the member's rights. This course of action would be unfavourable to aviation safety.

### ***International Civil Aviation Organisation (ICAO) Standards and Recommended Practises (SARPS)***

ICAO Annex 13 contains the SARPS on mandatory incident reporting. While the standard does not require protections for mandatory reporting schemes, Attachment E to Annex 13 provides guidance on recommended practises for protecting information, which specifically include mandatory reporting. States are encouraged to adapt their laws and policies to prevent 'inappropriate use' of safety information. "Inappropriate use refers to the use of safety information for purposes different from the purposes for which it was collected, namely, use of the information for disciplinary, civil, administrative and criminal proceedings against operational personnel, and/or disclosure of the information to the public" (ICAO, 2010a, pp. ATT E-1). Exceptions from protection provisions should only occur where:

"conduct with intent to cause damage, or conduct with knowledge that damage would probably result, equivalent to reckless conduct, gross negligence or wilful misconduct" occurs; or  
release of the information is "necessary for the proper administration of justice, and that its release outweighs the adverse domestic and international impact such release may have on the future availability of safety information" (ICAO, 2010a, pp. ATT E-2,3).

AusALPA's position is that the recommended practises in Attachment E should be a standard. This position is aligned with the conclusions of the 2010 ICAO High Level Safety Conference that, "the protection of information from all available sources of safety data from improper use is essential to ensure its continued availability" (ICAO, 2010b, pp. 3-7).

### **Misinterpretation of Foreign Practises**

The consultation paper cites the US and United Kingdom (UK) practise as demonstrating the need for CASA to have open access to occurrence reports filed with the ATSB. In the case of the US, FAR part 830 only specifies 12 categories, mostly serious mechanical failures which would equate to serious incidents (e.g. "sustained loss of the power or the thrust produced from two or more engines"), as being mandatorily reportable occurrences to the National Transportation Safety Board (NTSB) (U.S. Government, Pt 830.5). Instead, the US is heavily reliant on voluntary, confidential reporting through schemes such as US ASRS, administered by NASA and providing immunity incentives for reporting. In the UK, the Air Navigation Orders prevent mandatory reports being

the sole source used in regulatory proceedings (United Kingdom, 2009, Pt 30, 226 (17)).

Both the US and UK occurrence reporting models have serious flaws, outlined in the attached AusALPA discussion paper, so citing these countries as ones whose practises we should adopt is not supported.

### **An Alternative Approach**

AusALPA recognises the need for CASA to gather as much safety information as practical. Inherent in a systemic risk based approach to aviation safety is the provision of valid hazard and risk information. To be successful, risk management requires large incident databases and “assurance that data for risk assessments are complete, meaningful, and available to decision makers” (United States Government Accountability Office [U.S. GAO], 2011, p. 37). The challenge with integrating occurrence reporting with other safety management system (SMS) information is that without adequate protection provisions the occurrence data will almost certainly be unrepresentative and so invalid. However, providing protections outside the SMS process, as occurs with reports to REPCON or ASRS type schemes means that it is unavailable. If Australia’s occurrence reporting schemes are to be successfully integrated into SMS activities, an alternative approach is required.

Fortunately, there already exists “landmark legislation and by far one of the best in the world in terms of creating a ‘just culture’ ” (EPRC, 2006, p. 57) that Australia could adapt to our own laws and regulations. Under regulation BL8-10 (Civil Aviation Administration - Denmark, 2009), Denmark introduced a single mandatory, non-punitive, and yet strictly confidential occurrence reporting system. Individuals are required to report a prescribed list of occurrences and encouraged to report other safety events through, where applicable, their employer who is required to forward the report and any investigation to the regulator. A failure to report is punishable by fines while reporters receive immunity from punishment for the reported occurrence (with exceptions for sabotage and negligence due substance abuse), provided that they have been full and open about the occurrence. Details of individual reports remain confidential, with individuals breaching confidentiality exposed to criminal offences. However, the data storage arrangement retains personal details for five years, allowing follow up investigations and verification by the regulator. In return for exemption from freedom of information (FOI) requirements, the Danish regulatory authority is required to publish six monthly statistical summaries based on the de-identified data from occurrence reports.

The result of this legislation has been a stunning improvement in Denmark’s reporting culture. Reporting rates increased more than ten-fold (EPRC, 2006, p. 57), with reporting of loss of separation incidents, mandatory both before and after the change, tripling (Norbjerg, 2003, p. 157). In a survey on air traffic controller (ATCO) reporting cultures the EPRC identified that Denmark:

- Had one of the best reporting cultures in the world,
- Demonstrated strong political support from employees and management,
- Strong peer support coupled with a rejection of antisocial behaviours, while
- Incidents are treated as worthwhile learning opportunities. (EPRC, 2006, p. 58)

SMSs need the ability to integrated occurrence reports with other SMS sources such as flight data analysis events. Under the Danish system, the regulator sees not only the report but also the SMS activities in response to a report. The need for separate reporting schemes, remote from SMS activities, such as REPCON and ASRS, is reduced.

**2. Draft Transport Safety Investigation Amendment Regulations 2012 (No. 1) Which Clarify What Aviation Accidents and Incidents Must Be Reported**

AusALPA has no significant issues with moving from a prescribed list of reportable occurrences towards a risk based guidance approach. This should make it easier to assess and respond to new and emerging threats and is consistent with SMS principles. Two areas of concern, which AusALPA considers will require careful attention, are the following:

The need for comprehensive guidance material and an education programme to ensure that the transition process goes smoothly.

The potential for operators less open to disclosure of reportable incidents not to report incidents to the authorities based on their safety risk assessment. These concerns would be mitigated by providing protection to reporters under the mandatory reporting scheme, as stated in the response to section 2.

In the section containing a proposal to clarify reputability requirements, the consultation paper raises a seemingly unrelated proposal on “disclosure of information for the management of hazards and risks” (ATSB, 2012, p. 7). AusALPA supports the proposal in a general sense, as we believe that occurrence information is invaluable in improving aviation safety. Any supporting legislation, however, must contain adequate protection to ensure the privacy of individuals involved in occurrences. A layered access regime may be warranted; with public access limited to brief summaries, whilst professionals, involved in safety management activities (airline safety managers, researchers and the like), are provided with greater access, subject to them having entered into an enforceable and legal undertaking to use the information for safety related purposes only.

**3. Draft Transport Safety Investigation (Voluntary and Confidential Reporting Scheme) Regulation 2012 Which Would Replace the Current REPCON Confidential Reporting Regulations**

AusALPA supports the concept of a multi-modal confidential reporting scheme and using the restricted information provisions under the Transport Safety Investigation Act (2003) to protect the information from abuse. A separate confidential avenue for reporting is necessary, however, given the lack of protection provided to reporters under the mandatory reporting scheme. A major area of concern is ATSB’s present authority to reject a REPCON report on the basis that an event is reportable under mandatory reporting requirements. It is easily conceivable, with no protection presently to reporters under Australia’s mandatory scheme, that a reporter may only be willing to report some information confidentially for fear of sanctions by employers or CASA. Should the REPCON report be rejected, this will probably lead to the event going unreported. Whilst if the REPCON report is accepted, the confidential aspects of an event may well result in two records (the REPCON record, and a minimalist Mandatory Report) which are unable to be combined. The solution is not to amend REPCON; rather AusALPA advocates providing reporter protections within the mandatory reporting scheme.



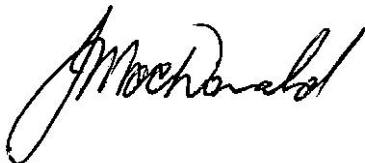
## **Conclusion**

Whilst AusALPA recognises CASA's need for improved access to safety information, the proposal to allow open access to mandatory occurrence reports in the consultation paper is completely unacceptable to the Association and its members. Furthermore, AusALPA firmly believes that is not in the interest of aviation safety, as a whole. Improved access should only occur following a comprehensive review of reporting requirements that create adequate protections and incentives for reporters to be open and frank regarding their experiences and actions. AusALPA advocates that the Danish system (Appendix 1) of a single mandatory, non-punitive, and yet strictly confidential reporting scheme, is the example of "world's best practise" that should serve as a starting point for this review.

For more information, please refer to the discussion paper attached which places AusALPA's submission in context and also examines the best way for Australia to improve occurrence reporting schemes and practises.

Should you wish to discuss this further, please do not hesitate to contact our office at [safety.technical@aipa.org.au](mailto:safety.technical@aipa.org.au) or on 02 8307 7777.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'J. MacDonald', written in a cursive style.

**Captain John MacDonald**  
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### Denmark

In 2001, Denmark revolutionised its occurrence reporting system introducing “landmark legislation and by far one of the best in the world in terms of creating a ‘just culture’” (EUROCONTROL Performance Review Commission, 2006, p. 57).

Under regulation BL8-10 (Civil Aviation Administration - Denmark, 2009), Denmark introduced a single mandatory, non-punitive, and yet strictly confidential occurrence reporting system. Individuals are required to report a prescribed list of occurrences and encouraged to report other safety events through, where applicable, their employer who is required to forward the report and any investigation to the regulator.

A failure to report is punishable by fines while reporters receive immunity from punishment for the reported occurrence (with exceptions for sabotage and negligence due substance abuse), provided that they have been full and open about the occurrence. Details of individual reports remain confidential, with individuals breaching confidentiality exposed to criminal offences. However, the data storage arrangement retains personal details for five years, allowing follow up investigations and verification by the regulator. In return for exemption from freedom of information (FOI) requirements, the Danish regulatory authority is required to publish six monthly statistical summaries based on the de-identified data from occurrence reports.

The result of this legislation has been a stunning turnaround in Denmark’s reporting culture, albeit from a poor base. As previously noted; reporting rates increased more than ten-fold (EUROCONTROL Performance Review Commission, 2006, p. 57), with reporting of loss of separation incidents, which was mandatory both before and after the change, tripling (Norbjerg, 2003, p. 157). In its survey on ATCO reporting cultures the EUROCONTROL Performance Review Commission identified that Denmark:

- Had one of the best reporting cultures in the world;
- Demonstrated strong political support from employees and management;
- Strong peer support coupled with a rejection of antisocial behaviours; while
- Incidents are treated as worthwhile learning opportunities. (EUROCONTROL Performance Review Commission, 2006, p. 58)

Denmark maintains a single occurrence reporting system, which while mandatory, provides confidentiality and immunity from prosecution. Key features of the scheme include:

- A prescribed list defines the reportable occurrences.
- Individuals are required to report occurrences to their organisation’s reporting scheme that must conform to the national regulations. The organisation is then responsible for forwarding the report, along with a statement regarding the investigation, to the regulator.
- Failure to report is punishable by fines.
- Persons who fulfil their reporting obligations receive immunity for regulatory violations.
- The database’s structure prevents personal details being searchable and it is an offence to reveal reported information.
- The regulator is required to issue an annual report based on reported occurrences. (Civil Aviation Administration - Denmark, 2009)

## References

- Australian Transport Safety Bureau. (2012). Enhanced Aviation Mandatory and Confidential Reporting.
- Civil Aviation Administration - Denmark. (2009). Regulations for Civil Aviation BL 8-10 *Regulations on mandatory reporting of flight safety occurrences*. Retrieved from <http://www.slv.dk/Dokumenter/dsweb/Get/Document-9637/BL%208-10,%203%20edition.pdf>
- Civil Aviation Safety Authority. (2009). Enforcement Manual *Version 4.0*.
- EUROCONTROL Performance Review Commission. (2006). Legal and cultural issues in relation to ATM safety occurrence reporting in Europe. Retrieved from [http://www.eurocontrol.int/prc/gallery/content/public/Docs/Legal\\_and\\_Cultural\\_Issues\\_Safety.pdf](http://www.eurocontrol.int/prc/gallery/content/public/Docs/Legal_and_Cultural_Issues_Safety.pdf)
- Federal Aviation Administration. (1997). Aviation safety reporting program. AC No: 00-46D. Retrieved from Advisory Circular website: [http://rgl.faa.gov/Regulatory\\_and\\_Guidance\\_Library/rgAdvisoryCircular.nsf/0/64358057433fe192862569e7006da716/\\$FILE/AC00-46D.pdf](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/0/64358057433fe192862569e7006da716/$FILE/AC00-46D.pdf)
- International Civil Aviation Organization. (2010a). *Annex 13 to the convention on international civil aviation: Aircraft accident and incident investigation* (Tenth ed.).
- International Civil Aviation Organization. (2010b). Report of the high-level safety conference 2010. Doc 9935. Retrieved from <http://www2.icao.int/en/HLSC/Lists/Advance%20Copy%20of%20the%20HLS C%202010%20Report/Attachments/1/HLSC.2010.DOC.9335.EN.pdf>
- Norbjerg, P. (2003). *The Creation of an Aviation Safety Reporting Culture in Danish Air Traffic Control*. Paper presented at the Second Workshop on the Investigation and Reporting of Incidents and Accidents, (IRIA 2003), Williamsburg, Virginia. <http://shemesh.larc.nasa.gov/iria03/iria2003proceedings.pdf>
- U.S. Government. Code of Federal Regulations 49 Part 830 (10-1-10 ed.).
- United Kingdom. (2009). *The Air Navigation Order 2009 - Part 30 mandatory reporting*. Retrieved from <http://www.legislation.gov.uk/uksi/2009/3015/introduction/made>.
- United States Government Accountability Office. (2011). Aviation safety: enhanced oversight and improved availability of risk-based data could further improve safety. *Report to Congressional Committees, GAO-12-24*. Retrieved from <http://www.gao.gov/new.items/d1224.pdf>

# APPENDIX 2

AusALPA discussion paper  
Enhanced Aviation Mandatory and Confidential Reporting

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# **AusALPA Discussion Paper**

## **Enhanced Aviation Mandatory and Confidential Reporting**

Reference Number: S05-0009

July 2012



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## Introduction

Incidents are defined by ICAO as “an occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation” (ICAO, 2010a, pp. 1-2). While some incidents are serious, in that they “differ from accidents only in the result” (ICAO, 2010a, pp. 1-2) and should receive the same investigative attention as accidents; the vast majority of incidents are minor events which provide weak signals of safety issues. The strength and challenge in gathering safety data from minor events lies in their frequency, which potentially enables hazards and trends to be identified but prohibits in depth investigation of individual events. Macrae, Pidgeon and O’Leary (2002, p. 99) define three fundamental elements in maximising the benefit of incident reporting: appropriate accident causation models, rapid learning of suitable lessons and assessment of the risk implied by incidents in relation to safe levels of operation.

## The Role of Incident Reporting

Incident reports have multiple purposes in the safety system, depending on the safety paradigm employed, including the following:

**Identifying Defective Elements in the System.** This is the traditional use for incident reports, based on safety thinking that explains accidents as the consequence of the linear propagation of a chain of cause and effect (Hollnagel, 2006, p. 10). Investigations focus on ‘What happened?’, ‘When did it happen?’ and ‘Who did it?’ (Ayeko, 2002, p. 116; ICAO, 2009, pp. 2-2,3). While accident causation theories have advanced from simple cause-effect models, the continuing importance and relevance of this safety paradigm should not be underestimated. Most incidents, especially technical ones, are relatively minor single failure events and cause-effect models offer satisfactory explanations (Dekker, 2006, p. 84). Most regulatory systems maintain a focus on regulatory compliance and cause-effect models align with most judicial and societal approaches to accidents, i.e. to determine the fault and liability of a party and apportion blame (Michaelides-Mateou & Mateou, 2010, p. 100). However, safety managers may misconceive a direct relationship between eliminating a “cause” and eliminating an “effect” (Reiman & Rollenhagen, 2011, p. 1270), leading to a tendency to address symptomatic solutions rather than underlying structural problems (Leveson & Marais, 2003, pp. 8-9).

**Identifying Underlying Latent Conditions.** In the barrier models of accident causation, exemplified by Reason’s “Swiss Cheese” model, incidents assist in identifying latent conditions, open to remedial action prior to an accident occurring (Macrae et al., 2002, p. 100). Analysing incidents using a barrier approach can provide objective insight into human error (Wassoon, 2003, p. 75) and encouragement to look beyond immediate system failures to consider the latent conditions (Dekker, 2006, pp. 87-90; Johnson & Holloway, 2003). However, this approach is susceptible to hindsight bias and has tended to focus blame higher up in an organization at the expense of a thorough examination of active failures (Braithwaite, 2002). The model is also limited in its ability to explain why latent conditions exist or describe the interactions between the various failures and conditions identified (Dekker, 2006, pp. 87-90), leading to problems when developing countermeasures to identified latent conditions (Kirwan, 2011, p. 15; Wassoon, 2003, p. 75).

**Identifying Strengths and Weaknesses within the System.** Within systemic accident causation models, incidents are seen as not being directly related to accidents, rather they provide both a countering force to the competitive pressures within the system and an opportunity to understand how the system

adapted to cope with unexpected events (Amalberti, 2001; Woods & Cooke, 2006). Both successes and failures are a by-product of people and organizations balancing competitive pressures and resource constraints with imperfect knowledge (Dekker, 2006, p. 81; Hollnagel, 2006, p. 13). Preventing accidents with a systemic view revolves around constraining unwanted performance variability within acceptable margins and improving the system's ability to cope with work on a daily basis (Amalberti, 2001; Reiman & Rollenhagen, 2011, p. 1271).

### **Safety Management Systems (SMSs)**

ICAO, regulators, operators and air traffic management (ATM) organisations are placing increased emphasis on risk management through integrated SMSs in order to deal proactively and even predictively with emerging threats in an expanding and evolving aviation system. SMSs aim to assure safe operations via an integrated, data driven, risk based approach rather than the traditional compliance based regulatory regime. Within an SMS, incident reporting schemes provide data alongside automatic monitoring systems such as flight data analysis (FDA), surveys and operational audits. Reason (1990, pp. 209-210) and O'Leary (2003, p. 165) highlight the benefits and necessity of complementary multichannel feedback systems due to the strengths and weaknesses in individual channels. For instance, while FDA is an excellent source for identifying the frequency of certain events, FDA cannot capture numerous events and provides little information on context and human behaviours. Effective incident reporting schemes capture events that would otherwise remain unobserved and can provide both contextual and human behaviour information. To be successful, risk management requires large incident databases and "assurance that data for risk assessments are complete, meaningful, and available to decision makers" (United States Government Accountability Office [U.S. GAO], 2011, p. 37).

#### ***SMS Integration Challenges***

For incident reporting systems to provide credible risk metrics, the reporting must be as complete as is reasonably possible (EUROCONTROL Performance Review Commission, 2006, p. 2; U.S. GAO, 2010). Incomplete reporting creates difficulties in identifying trends, comparing levels of safety and creates the dangerous potential for the overestimation of the level of safety within a system. When using occurrence data from multiple sources to assess risks it is vital that multiple records of the same occurrence from, for example, FDA, separate mandatory / voluntary / confidential schemes are combined to provide a complete explanation and so as not to skew statistics. Failure to do so may well invalidate the risk assessments at the heart of SMS.

Ideally, as part of an SMS, reporting schemes should operate at a local level, enabling "a prompt response from those individuals who are best placed to understand the context" (Johnson & Holloway, 2003, p. 271). Centralized incident report repositories should support local processing, facilitate information sharing, provide an avenue to elevate issues to higher authorities and enable analysis over a larger sample size.

The protection provisions that enable the collection of sensitive information compromise its use for safety management and can prevent investigators from clarifying ambiguities (M. Tamuz, 2001, p. 296). The U.S. GAO (2011, p. 35) found that 35% of reports in a confidential air traffic control reporting program were identified by the FAA using other sources. The FAA's SMS is unable to combine the data to create a more complete picture. However, without the confidential program, there would have been no reports of the remaining 65% of incidents.



## Mandatory vs. Voluntary Reporting Schemes

Both mandatory and voluntary occurrence reporting schemes are imperfect, particularly when attempting to integrate the data into SMSs.

### *Mandatory Occurrence Reporting (MOR) Schemes*

Typically, MOR schemes require responsible individuals to submit a report to the state's central repository, usually via an operator's safety department who may conduct any investigation into the incident. MOR schemes tend to capture a wealth of primarily factual detail on events ("who", "what" and "where"). However, only limited information on why the incident occurred is gathered via a short unstructured narrative that seldom contains information on context or the prevention mechanisms that contained the situation, particularly where individuals under-performed (O'Leary, 2003, p. 167; Wiegmann & von Thaden, 2003, p. 154).

MOR schemes need to define 'reportable' events, either employing a definition with guidance list or specifically prescribing the reportable events. Such lists certainly help individuals recognise a reportable event and simplify scheme management (Graham, Kinnersly, & Joyce, 2002, p. 74). However, the lists vary between individual companies and countries, biasing the data collected. Additionally, overly rigid assumptions regarding safety can lead to the exclusion of novel incidents, creating the potential for emerging hazards to go unrecognized (Macrae et al., 2002, pp. 104-105).

### *Voluntary Reporting Schemes*

Voluntary non-punitive incident reporting schemes aim to provide reporters with protection from disciplinary and administrative action (ICAO, 2009, pp. 9-6), enabling open disclosure of human and organisational issues. Voluntary schemes can either provide incentives for voluntary reporting by offering immunity or ensure confidentiality by de-identifying reports.

Centralised state-based voluntary reporting schemes, such as REPCON, are easier to establish at a national level, separated from normal compliance actions and inaccessible to employers. However, they are remote from the bodies responsible for implementing corrective measures, reducing their relevance to safety management (M. Tamuz, 2001, pp. 295-297). Company based voluntary reporting schemes, for example the Aviation Safety Action Plans (ASAP) operating in the USA, enable the information to be included as data in organisational and national SMSs. However, they require formal and informal agreements spanning employees, management and the regulator: covering the type of information sought, the degree of confidentiality and reporter immunity, information access controls and what action will occur to correct deficiencies (Federal Aviation Administration [FAA], 2002; Pidgeon & O'Leary, 2000, pp. 24-25).

Confidential reporting schemes, particularly the USA's Aviation Safety Reporting System (US ASRS) which has collected over 880,000 reports (Aviation Safety Reporting Scheme [ASRS], 2011), can be a significant resource for in depth analysis of specific issues (Hobbs & Kanki, 2008; O'Leary, 2003). "Most reporters [to ASRS] are frank to admit to their own mistakes, and will go into detail in describing the circumstances, character, and outcome of the incident" (Reynard, 1995, p. 7). However, voluntary and confidential systems do not provide a random cross-section of incidents, as only motivated reporters submit reports (ASRS, 2001, p. 7; Hobbs & Kanki, 2008, p. 7).

## Influences on Reporting Rates

For individuals to report an incident involves several steps: initially they have to recognise that a reportable event has occurred, secondly they have to report it and finally they have to determine what information they will disclose in the report (Graham et al., 2002, p. 73).

### ***Effect of Fear of Sanctions***

If reporters fear they will be treated as the accused, rather than as an eyewitness, it is likely that their evidence may be less than fully frank, if it is provided at all (Dekker, 2011, p. 123; Michaelides-Mateou & Mateou, 2010, p. 153; Orlady & Orlady, 1999, p. 397; U.S. GAO, 2010, p. 21). Several studies, demonstrate the significance of fears of adverse consequences in determining the level of reporting by aviation personnel:

Tamuz (1987; 2001) examined the rate of reporting of near mid-air collisions (NMACs) by U.S. pilots into a FAA mandatory reporting scheme where pilots faced potential prosecution for regulatory breaches. Between 1968 and 1971, the FAA granted immunity for reported NMACS, resulting in reporting rates tripling only to decline six-fold when the immunity lapsed in 1972. Subsequently, the installation of monitoring equipment within air traffic control (ATC) resulted in a five-fold increase in pilot NMAC reports submitted to ASRS, which provided a degree of immunity from FAA action.

Madsen (2002) compared reporting cultures amongst Danish and Swedish air traffic controllers (ATCOs) in the late 1990s. While both ATC systems had similar characteristics (training, safety record, capacity and national culture), Danish ATCOs had a significantly lower reporting rate. Madsen concluded that the definition and clarity of what actions would be subject to sanction was the major influence. In Denmark, simple negligence was punishable while in Sweden the test was gross negligence. In 2001, Denmark established a mandatory, non-punitive and yet strictly confidential reporting system (see Appendix 1). Reporters received immunity but were liable for fines if they failed to report. Reporting rates increased more than ten-fold (EUROCONTROL Performance Review Commission, 2006, p. 57), with reporting of loss of separation incidents, which was mandatory both before and after the change, tripling (Norbjerg, 2003, p. 157).

The EUROCONTROL Performance Review Commission (2006) conducted a survey of ATCO representatives to examine the legal and regulatory provisions likely to impede safety reporting. Key insights into ATCO reporting culture from the study included the following:

There is a low chance of open safety reporting if ATCOs perceive that the information may end up in judicial processes.

Non-punitive corrective mechanisms; such as suspensions, re-training and increased supervision; were often perceived as punitive by the recipients

Some states maintained a good reporting culture without legal protections as ATCOs trusted aviation authorities and the judiciary to intervene only in appropriate cases.

National culture, particularly with regard to media sensationalism and the public's desire to punish culprits, can be a significant deterrent to full reporting.

***Protection Fragility.*** Where reporter protections lack robustness the potential exists for the trust required for effective reporting, with adverse results. The following examples indicate the problem:

**US ASAP Suspensions.** Between 2006 and 2008 four large carriers and their pilot unions suspended their ASAP following concerns regarding letters of reprimand resulting from ASAP reports and court rulings calling for the release of ASAP reports by Comair following a 2006 accident (US GAO, 2010, p. 21).

**The Netherlands Experience.** The Netherlands historically had an excellent reporting culture supported by an open, non-punitive safety reporting policy. However, following the prosecution and conviction of ATCOs involved in the so-called “Delta case”, reporting levels reduced markedly, impairing safety management processes. “The judicial authorities in the Netherlands are particularly adamant on prosecution of all safety occurrences where gross negligence and wilful misconduct may have played a role. While this is perfectly acceptable, every single incident tends to be labelled as “gross negligence” by the judicial authorities” (EUROCONTROL Performance Review Commission, 2006, p. 79).

### ***Reporting Culture***

Influences on an individual’s decisions to report extend beyond their exposure to sanction or the possibility of sanctuary. Both Norbjerg (2003) and Madsen (2002) describing Denmark’s experience, stress the importance of company commitment, accessible reporting methods, the professional handling of investigations and useful feedback mechanisms in developing a professional code of ethics regarding reporting. Some companies have increased reporting rates even though they are not in a position to guarantee immunity.

**Effects of Safety Management Programs.** During the 1990s BA developed the British Airway’s Safety Information System (BASIS), consisting of a FDA program, a MOR scheme and a confidential human factors reporting scheme. Incident reporting increased five-fold between 1991 and 2001 while both the proportion and absolute number of events considered to be high risk declined (O’Leary, Macrae, & Pidgeon, 2002, pp. 90-91). O’Leary (2003, p. 166) attributes BASIS’ success to the versatility of the program and the organisational support from employees and management. Trials of a similar, albeit simpler, proactive safety management program in an Australian regional airline demonstrated significant increases in the willingness of staff to report incidents (Edkins, 1998).

**Studies from Outside Aviation.** Several studies from other industries have addressed reporting culture. Clarke (1998) found that perceptions of local managers’ attitudes towards incident reporting strongly influenced British train drivers willingness to report safety incidents. Van der Schaaf and Kanse (2002) identified that employee perceptions that the reporting system did not apply and that there were no consequences or learning opportunities from their errors were the principal reasons why chemical industry employees failed to report self-made errors. In the Norwegian merchant shipping industry Oltedal and McArthur (2011) found high competence levels, strong interpersonal relationships, management commitment, pro-active work practises and feedback correlated to a higher level of reporting. Jones, Kirchsteiger and Bjerke (1999) identified that management focus on near miss reporting generated incident reports within Norsk Hydro. Interestingly, Norsk Hydro found “an inverse proportionality between the number of reported near misses and the number of accidents” (p. 63). This result is similar to that observed in BASIS where the number of high-risk events declined as reporting increased.

## ICAO Requirements and Developments

### *ICAO SARPs*

Chapter 8 of ICAO Annex 13 contains the current standard on reporting systems; requiring states to maintain a mandatory incident reporting system as well as voluntary, non-punitive reporting system that protects the source of safety information (ICAO, 2010a, pp. 8-1).

Additionally, Attachment E to Annex 13 provides guidance on recommended practises for protecting information from safety data collection and processing systems (SDCPS). SDCPSs include both mandatory and voluntary reporting systems as well as self-disclosure reporting systems, automatic data capture systems such as FDA and manual data capture systems such as Line Operated Safety Audits (LOSA). States are encouraged to adapt their laws and policies to facilitate safety data collection to prevent 'inappropriate use' of safety information. "Inappropriate use refers to the use of safety information for purposes different from the purposes for which it was collected, namely, use of the information for disciplinary, civil, administrative and criminal proceedings against operational personnel, and/or disclosure of the information to the public" (ICAO, 2010a, pp. ATT E-1). Exceptions from protection provisions should only occur where:

“conduct with intent to cause damage, or conduct with knowledge that damage would probably result, equivalent to reckless conduct, gross negligence or wilful misconduct” occurs; or

release of the information is “necessary for the proper administration of justice, and that its release outweighs the adverse domestic and international impact such release may have on the future availability of safety information” (ICAO, 2010a, pp. ATT E-2,3).

### *Recent ICAO Developments*

In 2010, the ICAO High Level Safety Conference concluded, “the protection of information from all available sources of safety data from improper use is essential to ensure its continued availability” (ICAO, 2010b, pp. 3-7). The conference recommended the development of a new Safety Management Annex (No. 19) and the formation of a multi-disciplinary Safety Information Protection Task Force (SIPTF) to develop policies to protect, among other things, incident records and interactions between safety and judicial authorities. The initial version of Annex 19, expected to come into force in 2013 is essentially a collation of safety management provisions from existing annexes, with few new initiatives. However, the ICAO Safety Management Panel (SMP) aims to develop new policies for Annex 19, alongside the work of the SIPTF. The SIPTF is aiming to identify means of encouraging law enforcement, judicial and administrative authorities to consider the protection of safety information principles while the SMP, has identified deficiencies in the current Attachment E of Annex 13 when it applied to safety management and that:

*“The protections on safety data are necessary but they should emphasize the protection of the identity of the primary source, especially on voluntary or sole-source reports. The mandatory reports should bring clear information about the objectives and possibilities of use under a safety management approach, clearly defining the boundaries between an acceptable and unacceptable behaviour.”*  
(ICAO, 2012, p. 5)

## International Occurrence Reporting Systems and Experiences

Internationally there is a wide variety of occurrence reporting regimes. Given differences in national laws, culture and historical practise, such differences are not surprising. However, reviewing the strengths and weaknesses in some regimes it is possible to identify some key

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components needed for integrating occurrence reporting into SMS and determine best practise. Table 1 compares and summarises the reporting regimes in the US, UK, New Zealand, Denmark and Australia; with more detail provided at Appendix 1.

**Table 1. Examples of Reporting Regimes in Various Countries.**

(N.B. Appendix 1 provides expanded descriptions and source citations. “Prescribed” indicates a scheme specifically lists reportable occurrences while “guidance” indicates the scheme defines an “incident” with relevant examples. The “No. of Reportable Occurrences” is the number of event categories that the MOR scheme either prescribes or provides as guidance.)

Country	Mandatory Occurrence Reporting Scheme			Voluntary Occurrence Reporting Scheme		
	Prescribed / Guidance	No. of Reportable Occurrences	Reporter Protections	Company / State Processing	Separate from MOR	Immunity Incentives
<b>New Zealand</b>	Guidance	137	Not used for prosecutions unless an action or omission caused unnecessary danger.	State	No	No.
<b>United Kingdom (UK)</b>	Guidance	194	Report accessible when authorities aware of the event by other means. Regulator committed not to use reports for punitive action.	State	Yes	No
<b>United States (USA)</b>	Prescribed	13	None unless successfully reported to separate voluntary schemes (ASAP / US ASRS) providing limited administrative protection.	US ASRS - State / ASAP - Company	Yes	Yes - Limited protection from administrative actions.
<b>Denmark</b>	Prescribed	105	Immunity / confidentiality enshrined in law.	Company	No	Yes –immunity / confidentiality enshrined in law.
<b>Australia</b>	Prescribed	71	None unless successfully reported to the Aviation Self Reporting Scheme (AUS ASRS) providing limited administrative protection.	State	Yes	No - Unless successfully reported to the AUS ASRS providing limited administrative protection.

### ***United Kingdom (UK) and New Zealand (NZ)***

Both the UK and NZ reporting regimes aim to funnel occurrence reports into a single state repository by providing a level of protection to reporters. Both systems encourage investigation at a local level with the reports / safety actions forwarded to the central repository. In NZ, reporters can elect to submit confidentially via a separate, confidential portal into the main scheme, while in the UK the independent Confidential Human Factors Reporting Scheme (CHIRP) is one avenue for frontline personnel to pass on their experiences.

From a SMS perspective, by encouraging processing within organisational-based SMSs and then combining the data in a central repository demonstrate a solid process. However, both systems have weaknesses, primarily the following:

**Guarantees of Protection.** In NZ, Rule 12.63 prevents report use for prosecution action unless “the information reveals an act or omission that caused unnecessary danger to any other person or to any property” (Civil Aviation Authority of New Zealand, 2010, p. 13). This standard is equivalent to less than simple negligence, as no damage is required, essentially equating to human error. The UK has a similar guarantee with a serious “out” clauses. The UK regulations prevent the use of reports for enforcement proceedings except in cases of gross negligence, but only when the report is the sole means by which the authorities became aware of the incident (United Kingdom, 2009, Pt 30, 226 (17)). The sole means provision makes the guarantee very susceptible to political / public pressure if an event becomes public knowledge. Should such an event occur then, like in the Netherlands, it is likely to cause severe damage to the reporting culture. When personnel compose reports they will probably be unaware whether the authorities will learn about the occurrence by other means

**Voluntary Confidential Portals.** The need for confidential portals (or CHIRP in the UK) demonstrates that critical information on human performance is bypassing local SMS processes. While such portals are in accordance with the ICAO standard, any reports submitted bypass local SMSs and demonstrate weaknesses in reporting culture and / or the protections provided by the main occurrence reporting scheme. A recent survey in one UK airline asked whether CHIRP was still necessary in the presence of SMS, “just culture” and a company confidential reporting portal. The overwhelming response was that it was (CHIRP, 2011, p. 1).

### ***The United States (US)***

Compared with most other states, the US is more reliant on voluntary reporting which provides limited protection from administrative action. While mandatory reporting requirements are limited to essentially serious occurrences the US’s ASRS confidential scheme has been very successful in amassing reports and the adoption of company based ASAPs has definitely improved the flow of critical feedback on human performance into local SMSs and the FAA’s databases. However, as pointed out in two recent reports by the US GAO (2010, 2011) there are serious weaknesses in the system when it comes to using this data for a risk based approach to safety. Primarily the concerns relate to the validity of the data and the ability to integrate the data with other safety metrics. The GAO, while recognising the benefits of the voluntary reporting programs, has noted significant limitations, including the following:

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It is impossible to know how many events, and of what types, are not reported, so determining if the database represents a random cross section is impossible to determine.

Not every airline participates.

It is impossible to verify confidential voluntarily reported data.

The fragility of the system demonstrated by the withdrawal of several major carriers between 2006 and 2008. (US GAO, 2010, pp. 19-21)

While the US ASRS is often cited as an excellent reporting system, in some ways it has limited use for risk based safety management. In many respects it has become “a bloated and costly reporting system with not necessarily better predictability, but where everything can be found; ... chronically diverted from its true calling (safety) to serve literary or technical causes” (Amalberti, 2001, p. 113).

### **Denmark**

In 2001, Denmark revolutionised its occurrence reporting system introducing “landmark legislation and by far one of the best in the world in terms of creating a ‘just culture’ ” (EUROCONTROL Performance Review Commission, 2006, p. 57). Under regulation BL8-10 (Civil Aviation Administration - Denmark, 2009), Denmark introduced a single mandatory, non-punitive, and yet strictly confidential occurrence reporting system. Individuals are required to report a prescribed list of occurrences and encouraged to report other safety events through, where applicable, their employer who is required to forward the report and any investigation to the regulator. A failure to report is punishable by fines while reporters receive immunity from punishment for the reported occurrence (with exceptions for sabotage and negligence due substance abuse), provided that they have been full and open about the occurrence. Details of individual reports remain confidential, with individuals breaching confidentiality exposed to criminal offences. However, the data storage arrangement retains personal details for five years, allowing follow up investigations and verification by the regulator. In return for exemption from freedom of information (FOI) requirements, the Danish regulatory authority is required to publish six monthly statistical summaries based on the de-identified data from occurrence reports.

The result of this legislation has been a stunning turnaround in Denmark’s reporting culture, albeit from a poor base. As previously noted; reporting rates increased more than ten-fold (EUROCONTROL Performance Review Commission, 2006, p. 57), with reporting of loss of separation incidents, which was mandatory both before and after the change, tripling (Norbjerg, 2003, p. 157). In its survey on ATCO reporting cultures the EUROCONTROL Performance Review Commission identified that Denmark:

had one of the best reporting cultures in the world,

demonstrated strong political support from employees and management,

strong peer support coupled with a rejection of antisocial behaviours, while

incidents are treated as worthwhile learning opportunities. (EUROCONTROL Performance Review Commission, 2006, p. 58)

### **The Australian Reporting System**

Australia maintains three separate occurrence reporting schemes:



- 1. Aviation Accident or Incident Notification Scheme.** This is a mandatory scheme that explicitly prescribes a list of immediately and routinely reportable events. There are no provisions preventing use of the reports against the reporter in either the Transport Safety Investigation Act 2003 (Commonwealth of Australia, 2003) or the Transport Safety Investigation Regulations (Australian Government, 2003, Part 2).
- 2. REPCON.** A voluntary confidential reporting scheme direct from individuals to the ATSB. Reports require acceptance by the ATSB before admission into the scheme in order to ensure that it is the appropriate reporting method. Personal information can only be retained in the REPCON database in specific circumstances (Australian Government, 2006).
- 3. Aviation Self Reporting Scheme (AUS ASRS).** A voluntary scheme for reporting inadvertent breaches of specific aviation regulations that grant the reporter limited immunity from administrative action by the regulator (Australian Government, 1998, Division 13.K.1).

While the protections provided to REPCON and AUS ASRS comply with the ICAO standard, the mandatory scheme does not meet the recommended practise preventing the “use of the information for disciplinary, civil, administrative and criminal proceedings against operational personnel, and/or disclosure of the information to the public” (ICAO, 2010a, pp. ATT E-1).

The ‘strict liability’ nature of the majority of Australia’s aviation regulations means that even if you had no intention of breaching a regulation, in a mandatory occurrence report you are effectively providing self-incriminating evidence. Compounding this is the Civil Aviation Safety Authorities (CASA) guidance on maintaining a “just culture” in organisations which states that sanctions should be “applied when there is evidence of ... negligent behaviour” (Civil Aviation Safety Authority, 2009a, p. 6). Negligence applies when ‘damage’ results from a breach of duty of care (Barstch, 2010, para 6.35) and in the absence of damage “is no different than human error in the everyday world” (Marx, 2009, p. 114). Reporters to Australia’s mandatory reporting scheme are relying on trust that the information is not used against them so it should be unsurprising if they are less than fully frank if their performance could be questioned.

From a safety management perspective, REPCON and AUS ASRS, cannot be incorporated into local SMSs. Additionally, incorporating other risk metrics such as FDA with mandatory reports is difficult as they have differing protection standards. While under CAO 82.5 FDA programs must protect the identity of individuals and ensure no punitive action is taken against them (Australian Government, 2012, subparagraph 2A.3) no protection is provided to a reporter who files an incident report on an event. If you believe that FDA will record an event, there is almost a disincentive to file an incident report. There is evidence of under-reporting within the Australian aviation industry. For, example, “at least 40 per cent of wirestrike occurrences in Australia between July 2003 and June 2011 had not been reported to the ATSB” (ATSB, 2012a, p. vii). If such under-reporting is widespread, the validity of occurrence reporting data used for risk management and any conclusions reached from risk assessments is unreliable and potentially misleading.

## Conclusion

Safety incident reporting by frontline staff provides insights into events and pressures that are invaluable in effective risk management processes. At the local level, effective safety management requires the removal of barriers preventing full and frank disclosure by individuals. The quarantining of some human performance data in separate databases, while useful for directed research, can compromise local risk management endeavours.

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With the adoption of SMS as the preferred means of assuring safety within aviation, the safety paradigm has moved towards a systemic view. However, historic regulatory and cultural practises regarding human performance still lead to a belief that human performance variability must be addressed, through either punitive or non-punitive measures directed at the individual. Without robust guarantees that reporters will not be self-incriminating themselves there is likely to be both under-reporting and a tendency for reporters to be less than 'full and frank', undermining and even invalidating the use of occurrence reports in safety management.

Organisationally based non-punitive reporting programmes, by exempting reporters from extant company and national rules, are one means of improving the supply of incident reports to an SMS. Changing national laws to impose obligations on reporters while granting those that do report real protection, as has occurred in Denmark, is likely to be more enduring and effective. Both approaches require that the industry demonstrate to politicians and the community at large that the protections are justified and being used responsibly. State based voluntary reporting schemes such as REPCON, where reporters bypass an organisation's SMS are necessary without legislative and cultural change; however, they are not in the best interest of safety management.

It is time for Australia to review its entire reporting system. Current schemes are not in accordance with ICAO's recommended practises, which have been determined to be inadequate for effective safety management. With the adoption of SMSs by industry, the protection provided to reporters requires strengthening in order to allow the SMS risk process to be fully informed. Regulations require amendment to clearly state what mandatory occurrence reports can be used for. If used for punitive and even non-punitive measures by the regulator, Australia's reporting culture and safety management will suffer.

The Danish model of a single mandatory, non-punitive, and yet strictly confidential occurrence reporting system is the best in the world and aligned with the requirements of risk based safety management. The 2010 ICAO High Level Safety Conference declaration "calls upon States to examine their existing legislation and adjust, as necessary, or enact laws and regulations to protect safety information and its sources where the purpose is to improve safety" (ICAO, 2010b, pp. 2-2). If Australia is serious about improving the safety of aviation by adopting risk based safety management it should amend its laws and adopt the Danish model.

*(Significant sections of this discussion paper were adapted from an unpublished literary review on "Incident Reporting Biases: Implications for Safety Management and the Sharing of Safety Information" by Ian Whyte (BSc, MScTech (Aviation)) as part of a Masters Degree course at the University of NSW. Copies of the paper are available on request from [safety.technical@aipa.org.au](mailto:safety.technical@aipa.org.au))*

## References

- Amalberti, R. (2001). The paradoxes of almost totally safe transportation systems. *Safety Science*, 37(2-3), 109-126. doi: 10.1016/s0925-7535(00)00045-x
- Australian Government. (2012). CAO 82.5 *Amdt No.1 dated 23 March 2012*.
- Australian Government. (1998). Civil Aviation Safety Regulations 1998 *Statutory rules 1998 No. 237 as amended up to SLI 2010 No. 277*.
- Australian Government. (2003). Transport Safety Investigation Regulations. *Statutory rules 2003 No. 158 as amended up to SLI 2009 No. 149*. Retrieved from <http://www.comlaw.gov.au/Details/F2009C00480>
- Australian Government. (2006). Air Navigation (Confidential Reporting) Regulations. *SLI 2006 No. 371*. Retrieved from <http://www.comlaw.gov.au/Details/F2006L04060/Download>
- Australian Transport Safety Bureau. (2012a). ATSB Transport Safety Report AR-2011-004, Final, Under reporting of aviation wirestrikes. Canberra.
- Australian Transport Safety Bureau. (2012b). Enhanced Aviation Mandatory and Confidential Reporting.
- Ayeko, M. (2002). *Integrated Safety Investigation Methodology (ISIM) - Investigating for Risk Mitigation*. Paper presented at the Workshop on Investigation and Reporting of Incidents and Accidents (IRIA 2002), University of Glasgow, Scotland. [http://www.dcs.gla.ac.uk/~johnson/iria2002/IRIA\\_2002.pdf](http://www.dcs.gla.ac.uk/~johnson/iria2002/IRIA_2002.pdf)
- Barstch, R. (2010). *Aviation Law in Australia* (3rd ed.). Pyrmont: Thomson Reuterd (Professional) Australia Ltd.
- Braithwaite, G. (2002). *"The simpler it seems, the more you have forgotten..." New Challenges in Investigation and Safety Management*. Paper presented at the Workshop on Investigation and Reporting of Incidents and Accidents (IRIA 2002), University of Glasgow, Scotland. [http://www.dcs.gla.ac.uk/~johnson/iria2002/IRIA\\_2002.pdf](http://www.dcs.gla.ac.uk/~johnson/iria2002/IRIA_2002.pdf)
- Civil Aviation Administration - Denmark. (2009). Regulations for Civil Aviation BL 8-10 *Regulations on mandatory reporting of flight safety occurrences*. Retrieved from <http://www.slv.dk/Dokumenter/dsweb/Get/Document-9637/BL%208-10,%203%20edition.pdf>
- Civil Aviation Authority of New Zealand. (2000). Advisory circular AC 12-2: incident investigation. Retrieved from [http://www.caa.govt.nz/Advisory\\_Circulars/AC12-2.pdf](http://www.caa.govt.nz/Advisory_Circulars/AC12-2.pdf)

## Enhanced Aviation Mandatory and Confidential Reporting

- Civil Aviation Authority of New Zealand. (2007). Advisory circular AC12-1: mandatory occurrence notification and information. Retrieved from [http://www.caa.govt.nz/Advisory\\_Circulars/AC12-1\\_rev\\_3.pdf](http://www.caa.govt.nz/Advisory_Circulars/AC12-1_rev_3.pdf)
- Civil Aviation Authority of New Zealand. (2010). Civil Aviation Rules: Part 12 CAA consolidation - accidents, incidents and statistics Retrieved from [http://www.caa.govt.nz/rules/Rule\\_Consolidations/Part\\_012\\_Consolidation.pdf](http://www.caa.govt.nz/rules/Rule_Consolidations/Part_012_Consolidation.pdf)
- Civil Aviation Safety Authority. (2009a). CAAP SMS-1(0) - Safety management systems for regular public transport operations.
- Civil Aviation Safety Authority. (2009b). Enforcement Manual *Version 4.0*.
- Clarke, S. (1998). Safety culture on the UK railway network. *Work & Stress*, 12(3), 285-292. doi: 10.1080/02678379808256867
- Commonwealth of Australia. (2003). Transport Safety Investigation Act *Act No. 18 of 2003 including amendments up to Acts Interpretation Amendment Act 2011*. Australia.
- Dekker, S. (2006). *The field guide to understanding human error*. Farnham: Ashgate.
- Dekker, S. (2011). The criminalization of human error in aviation and healthcare: A review. *Safety Science*, 49(2), 121-127. doi: 10.1016/j.ssci.2010.09.010
- Edkins, G. D. (1998). The INDICATE safety program: evaluation of a method to proactively improve airline safety performance. *Safety Science*, 30(3), 275-295. doi: 10.1016/s0925-7535(98)00049-6
- EUROCONTROL Performance Review Commission. (2006). Legal and cultural issues in relation to ATM safety occurrence reporting in Europe. Retrieved from [http://www.eurocontrol.int/prc/gallery/content/public/Docs/Legal\\_and\\_Cultural\\_Issues\\_Safety.pdf](http://www.eurocontrol.int/prc/gallery/content/public/Docs/Legal_and_Cultural_Issues_Safety.pdf)
- Federal Aviation Administration. (1997). Aviation safety reporting program. *AC No: 00-46D*. Retrieved from Advisory Circular website: [http://rgl.faa.gov/Regulatory\\_and\\_Guidance\\_Library/rgAdvisoryCircular.nsf/0/64358057433fe192862569e7006da716/\\$FILE/AC00-46D.pdf](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/0/64358057433fe192862569e7006da716/$FILE/AC00-46D.pdf)
- Federal Aviation Administration. (2002). Aviation safety action program (ASAP). *AC No: 120-66B*. Retrieved from [http://rgl.faa.gov/Regulatory\\_and\\_Guidance\\_Library/rgAdvisoryCircular.nsf/0/61c319d7a04907a886256c7900648358/\\$FILE/AC120-66B.pdf](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/0/61c319d7a04907a886256c7900648358/$FILE/AC120-66B.pdf)
- Federal Aviation Administration. (2010). Aeronautical Information Manual. *as amended to Change 3* Retrieved from [http://www.faa.gov/air\\_traffic/publications/ATpubs/AIM/Chap7/aim0706.html](http://www.faa.gov/air_traffic/publications/ATpubs/AIM/Chap7/aim0706.html)

## Enhanced Aviation Mandatory and Confidential Reporting

- Graham, G. M., Kinnersly, S., & Joyce, A. (2002). *Safety Reporting and Aviation Target Levels of Safety*. Paper presented at the Workshop on Investigation and Reporting of Incidents and Accidents (IRIA 2002), University of Glasgow, Scotland.  
[http://www.dcs.gla.ac.uk/~johnson/iria2002/IRIA\\_2002.pdf](http://www.dcs.gla.ac.uk/~johnson/iria2002/IRIA_2002.pdf)
- Hollnagel, E. (2006). Resilience - the challenge of the unstable. In E. Hollnagel, D. D. Woods & N. Leveson (Eds.), *Resilience engineering concepts and precepts* (pp. 9-17). Farnham, Surrey: Ashgate.
- ICAO. (2012). SMP-WP/22 Safety data collection and protections in a data driven safety management environment.
- International Civil Aviation Organization. (2009). Safety management manual. *Doc 9859*. Retrieved from <http://www.icao.int/anb/safetymanagement/Documents.html>
- International Civil Aviation Organization. (2010a). *Annex 13 to the convention on international civil aviation: Aircraft accident and incident investigation* (Tenth ed.).
- International Civil Aviation Organization. (2010b). Report of the high-level safety conference 2010. *Doc 9935*. Retrieved from <http://www2.icao.int/en/HLSC/Lists/Advance%20Copy%20of%20the%20HLSC%202010%20Report/Attachments/1/HLSC.2010.DOC.9335.EN.pdf>
- Johnson, C., & Holloway, C. M. (2003). A survey of logic formalisms to support mishap analysis. *Reliability Engineering & System Safety*, *80*(3), 271-291. doi: 10.1016/s0951-8320(03)00053-x
- Jones, S., Kirchsteiger, C., & Bjerke, W. (1999). The importance of near miss reporting to further improve safety performance. *Journal of Loss Prevention in the Process Industries*, *12*(1), 59-67. doi: 10.1016/s0950-4230(98)00038-2
- Kirwan, B. (2011). Incident reduction and risk migration. *Safety Science*, *49*(1), 11-20. doi: 10.1016/j.ssci.2010.03.007
- Macrae, C., Pidgeon, N., & O'Leary, M. (2002). *Assessing the risk of flight safety incident reports*. Paper presented at the Workshop on Investigation and Reporting of Incidents and Accidents (IRIA 2002), University of Glasgow, Scotland.  
[http://www.dcs.gla.ac.uk/~johnson/iria2002/IRIA\\_2002.pdf](http://www.dcs.gla.ac.uk/~johnson/iria2002/IRIA_2002.pdf)
- Madsen, M. D. (2002). *A study of incident reporting in air traffic control - Moral dilemmas and the prospect of a reporting culture based on professional ethics*. Paper presented at the Workshop on Investigation and Reporting of Incidents and Accidents (IRIA 2002), University of Glasgow, Scotland.  
[http://www.dcs.gla.ac.uk/~johnson/iria2002/IRIA\\_2002.pdf](http://www.dcs.gla.ac.uk/~johnson/iria2002/IRIA_2002.pdf)
- Marx, D. (2009). *Whack-a-mole, the price we pay for expecting perfection*. Plano: By Your Side studios.

## Enhanced Aviation Mandatory and Confidential Reporting

- Michaelides-Mateou, S., & Mateou, A. (2010). *Flying in the face of criminalization*. Farnham: Ashgate.
- Norbjerg, P. (2003). *The Creation of an Aviation Safety Reporting Culture in Danish Air Traffic Control*. Paper presented at the Second Workshop on the Investigation and Reporting of Incidents and Accidents, (IRIA 2003), Williamsburg, Virginia.  
<http://shemesh.larc.nasa.gov/iria03/iria2003proceedings.pdf>
- O'Leary, M. (2003). *Should reporting systems talk to each other*. Paper presented at the Second Workshop on the Investigation and Reporting of Incidents and Accidents, (IRIA 2003), Williamsburg, Virginia.  
<http://shemesh.larc.nasa.gov/iria03/iria2003proceedings.pdf>
- O'Leary, M., Macrae, C., & Pidgeon, N. (2002). *Safety data collection in British Airways flight operations*. Paper presented at the Workshop on Investigation and Reporting of Incidents and Accidents (IRIA 2002), University of Glasgow, Scotland.  
[http://www.dcs.gla.ac.uk/~johnson/iria2002/IRIA\\_2002.pdf](http://www.dcs.gla.ac.uk/~johnson/iria2002/IRIA_2002.pdf)
- Olstedal, H. A., & McArthur, D. P. (2011). Reporting practices in merchant shipping, and the identification of influencing factors. *Safety Science*, 49(2), 331-338. doi: 10.1016/j.ssci.2010.09.011
- Orlady, H. W., & Orlady, L. M. (1999). *Human factors in multi-crew flight operations*. Aldershot: Ashgate.
- Pidgeon, N., & O'Leary, M. (2000). Man-made disasters: why technology and organizations (sometimes) fail. *Safety Science*, 34(1-3), 15-30. doi: 10.1016/s0925-7535(00)00004-7
- Reason, J. (1990). *Human error*. Cambridge: Cambridge University Press.
- Reiman, T., & Rollenhagen, C. (2011). Human and organizational biases affecting the management of safety. *Reliability Engineering & System Safety*, 96(10), 1263-1274. doi: 10.1016/j.res.2011.05.010
- Tamuz, M. (1987). The impact of computer surveillance on air safety reporting. *Columbia Journal of World Business*, 22(1), 69-77. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=buh&AN=5546506&site=ehost-live>
- Tamuz, M. (2001). Learning disabilities for regulators: The perils of organizational learning in the air transportation industry. *Administration & Society*, 33(3), 276-276-302. Retrieved from <http://search.proquest.com/docview/196851404?accountid=12763>
- The CHIRP Charitable Trust. The UK confidential human factors incident reporting scheme, from <http://www.chirp.co.uk/downloads/Aviation%20Programme%20Summary.pdf>
- U.S. Government. Code of Federal Regulations 49 Part 830 (10-1-10 ed.).

## Enhanced Aviation Mandatory and Confidential Reporting

UK Civil Aviation Authority. (2011). *CAP 382: The mandatory occurrence reporting scheme, information and guidelines*. Retrieved from <http://www.caa.co.uk/docs/33/CAP382.PDF>.

United Kingdom. (2009). *The Air Navigation Order 2009 - Part 30 mandatory reporting*. Retrieved from <http://www.legislation.gov.uk/uksi/2009/3015/introduction/made>.

United States Government Accountability Office. (2010). Aviation safety: improved data quality and analysis capabilities are needed as FAA plans a risk based approach to safety oversight. *GAO 10-414*. Retrieved from <http://www.gao.gov/new.items/d10414.pdf>

United States Government Accountability Office. (2011). Aviation safety: enhanced oversight and improved availability of risk-based data could further improve safety. *Report to Congressional Committees, GAO-12-24*. Retrieved from <http://www.gao.gov/new.items/d1224.pdf>

van der Schaaf, T., & Kanse, L. (2002). *Not reporting successful recoveries from self-made errors - An empirical study in the chemical process industry*. Paper presented at the Workshop on Investigation and Reporting of Incidents and Accidents (IRIA 2002), University of Glasgow, Scotland. [http://www.dcs.gla.ac.uk/~johnson/iria2002/IRIA\\_2002.pdf](http://www.dcs.gla.ac.uk/~johnson/iria2002/IRIA_2002.pdf)

Wassoon, K. (2003). *On classification in the study of failure, and a challenge to classifiers*. Paper presented at the Second Workshop on the Investigation and Reporting of Incidents and Accidents, (IRIA 2003), Williamsburg, Virginia. <http://shemesh.larc.nasa.gov/iria03/iria2003proceedings.pdf>

Wiegmann, D., & von Thaden, T. (2003). Using schematic aids to improve recall in incident reporting: The critical event reporting tool (CERT). *The International Journal of Aviation Psychology, 13*(2), 153-171. doi: 10.1207/s15327108ijap1302\_04

Woods, D. D., & Cooke, R. I. (2006). Incidents - markers of resilience or brittleness. In E. Hollnagel, D. D. Woods & N. Leveson (Eds.), *Resilience engineering concepts and precepts* (pp. 69-75). Farnham: Ashgate.

## Appendix 1. Examples of Incident Reporting Schemes in Selected Countries

As required by Chapter 8 of ICAO Annex 13 (2010a), most countries have developed some means for frontline operational personnel to report safety incidents. However, the schemes adopted in individual countries vary considerably. The countries and scheme descriptions below are not exhaustive; rather the aim is to indicate the variety of schemes in different jurisdictions.

### *New Zealand*

New Zealand maintains a mandatory reporting scheme, administered by the regulator. Significant features of the scheme include the following:

The pilot-in-command is responsible for notification, while operators must forward the results of internal investigation to the regulator.

A formal definition of an incident determines reporting requirements, supported by a list of examples.

Limited protection to reporters:

“The Authority shall not use or make available for the purpose of prosecution investigation or for prosecution action any information submitted to it by a person ... unless –

(1) the information reveals an act or omission that caused unnecessary danger to any other person or to any property; or

(2) false information is submitted; or

(3) the Authority is obliged to release the information pursuant to a statutory requirement or by order of a Court.” (Civil Aviation Authority of New Zealand, 2010, rule 12.63)

Reporters have the option to submit reports confidentially, by sending the reports directly to a separate portal at the regulator. (Civil Aviation Authority of New Zealand, 2000, 2007, 2010)

### *United Kingdom (UK)*

The UK regulator maintains a mandatory reporting scheme with the following principle features:

Individuals are responsible for reporting, with encouragement for operators to conduct the processing and investigation of reports.

A formal definition of an incident determines reporting requirements, supported by a list of examples.

The database does not contain personal information; however, judicial authorities can access information.

A mandatory report cannot be the sole basis for any proceedings instituted in respect of inadvertent infringements.

Reporters have the option to submit reports confidentially, by sending the reports directly to the regulator, annotated as “confidential”. (UK Civil Aviation Authority, 2011; United Kingdom, 2009, Part 30)

An independent charitable trust maintains a confidential human factors reporting scheme (CHIRP). After initial processing, CHIRP holds no personal identifying details (The CHIRP Charitable Trust).

### *United States (U.S.)*

The U.S. maintains multiple mandatory and voluntary reporting schemes. The principle schemes relevant to individual reporters include the following:



1. **Aircraft Accident and Incident Reporting Scheme.** This is a mandatory program for the reporting of accidents and specified serious incidents directly to the National Transportation Safety Board (U.S. Government, Part 830).
2. **Near Midair Collision (NMAC) Reporting.** Pilots are required to report NMACs directly to the FAA. When the subsequent investigation reveals a regulatory violation, “enforcement action will be pursued” (FAA, 2010, sect. 7-6-3).
3. **Aviation Safety Reporting System (ASRS).** ASRS is a voluntary reporting scheme administered by the National Aeronautics and Space Administration (NASA). Individuals submit reports directly to ASRS, and receive a receipt from NASA via a tear-off section of the report that contains all personal details. In return for the timely submission of a report, the FAA waives civil penalties and license suspension actions for associated inadvertent regulatory breaches (FAA, 1997).
4. **Aviation Safety Action Program (ASAP).** ASAP is a voluntary reporting scheme involving a partnership between the FAA, airlines and employees. An event review committee (ERC) reviews reports prior to their acceptance into ASAP. Once accepted, the ERC determines any corrective actions, which when fulfilled, allow the FAA to use a minimal approach to enforcement. The content of an ASAP report is not used to initiate and support FAA or company disciplinary action (FAA, 2002). Not all airlines participate in ASAP and several programs have experienced periods of suspension due to concerns with confidentiality and fears of reprisals (U.S. GAO, 2010, p. 21).

### *Denmark*

Denmark maintains a single occurrence reporting system, which while mandatory, provides confidentiality and immunity from prosecution. Key features of the scheme include:

A prescribed list defines the reportable occurrences.

Individuals are required to report occurrences to their organisation's reporting scheme that must conform to the national regulations. The organisation is then responsible for forwarding the report, along with a statement regarding the investigation, to the regulator.

Failure to report is punishable by fines.

Persons who fulfil their reporting obligations receive immunity for regulatory violations.

The database's structure prevents personal details being searchable and it is an offence to reveal reported information.

The regulator is required to issue an annual report based on reported occurrences. (Civil Aviation Administration - Denmark, 2009)

### *Australia*

Australia maintains three reporting schemes, administered by the Australian Transport Safety Bureau (ATSB):

1. **Aviation Accident or Incident Notification Scheme.** This is a mandatory scheme that explicitly prescribes a list of immediately and routinely reportable events. There are no provisions preventing use of the reports against the reporter (Australian Government, 2003, Part 2).
2. **REPCON.** A voluntary confidential reporting scheme direct from individuals to the ATSB. Reports require acceptance by the ATSB before admission into the scheme in order to ensure that it is the appropriate reporting method. Personal information can only be retained in the REPCON database in specific circumstances (Australian Government, 2006).
3. **Aviation Self Reporting Scheme.** A voluntary scheme for reporting inadvertent breaches of specific aviation regulations that grant the reporter

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limited immunity from administrative action by the regulator (Australian Government, 1998, Division 13.K.1).



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