Chapter 5

System failures

5.1 This chapter and the next will cover some of the systemic issues omitted from the report and the Australian Transport Safety Bureau (ATSB) processes that allowed this to occur. While the Civil Aviation Safety Authority (CASA) and the ATSB continue to argue that organisational and regulatory deficiencies that existed at the time of the accident had no bearing on the sequence of events that led to the accident, the committee believes the evidence shows these systemic deficiencies had a role to play. The identification of these organisational and regulatory factors should be a key part of the report so that the whole industry learns and improves from the accident.

Introduction

5.2 As discussed in Chapter 3, a systems-based approach to investigation examines all potential contributory factors. It looks at how the system (including the operator and regulator) took human fallibilities into account when designing the task, and workplace policies and procedures.

5.3 Witnesses highlighted that in the 1970s and 1980s accident investigation pointed out pilot errors, mechanical errors and maintenance errors while organisational and regulatory issues were largely ignored. However, over the past two to three decades, Australia has been seen to be ahead of International Civil Aviation Organization (ICAO) standards in terms of not focussing on individual cases but looking at systemic issues.[1] The fear expressed to the committee was that this report, by singling out the pilot's actions is signalling a return to that former era.[2]

5.4 Mr McComick appeared to acknowledge a systems approach to safety:

> I can stand here and guarantee that the safety in the Australian system will stand the test of scrupulous probity anywhere in the world. There have been unfortunate accidents: I agree with that. Could we have done better? Yes. Could operators have done better? Undoubtedly. Could pilots have done better? Absolutely. But it is a system approach, as you said yourself, Senator Fawcett. It has to be everyone doing their bit and pulling their weight.[3]

5.5 The statement by Mr McCormick appears to acknowledge that other barriers were imperfect resulting in the flight crew becoming the last line of defence. The committee therefore found it difficult to comprehend his argument and that of the ATSB that the deficiencies in the system at the time of the accident had no effect on the outcome.

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1 Mr Whyte, AIPA, *Committee Hansard*, 22 October 2012, p. 23.

2 Mr Bryan Aherne, *Committee Hansard*, 22 October 2012, p. 12.

3 Mr John McCormick, *Committee Hansard*, 15 February 2013, p. 21.

5.6 The State Aviation Safety Program makes it very clear that the responsibly for safety risk management of the Australian aviation industry is shared between industry/operators and government:

> …a modern approach to aviation safety management necessitates a systematic approach to managing safety risks, encompassing organisational structures, policies and procedures – the SMS [Safety Management Systems] approach.
>
> Safety risk management of the Australian aviation industry is a shared responsibility between industry and government aviation agencies.[4]

5.7 Witnesses were of the view that the ATSB report should have included more analysis of systemic issues because the predominant focus on the pilot means that it contains no lessons for the wider aviation industry.[5]

Scope of the investigation

5.8 The ATSB report stopped short of investigating systemic issues such as the possible effect of deficiencies in the operator and regulatory environment and whether they could have contributed to the accident. It appears from the documentation available to the committee that the ATSB officers involved at the start of the investigation wanted and expected to look at systemic issues but management did not agree with this approach. In the committee's view this was a mistake which means there is little for the aviation industry to learn from this report. It also shows that internal processes within the ATSB broke down very early in the investigation and it ignored information that appears to call for a systemic approach.

5.9 The Australian and International Pilots Association (AIPA) drew attention to the scope of the ATSB report and submitted that it:

> 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.[6]

Organisational/operator deficiencies

5.10 ICAO Annex 13 at the time of the accident indicated that a state's accident investigations body report will include organisational and management information as follows:

> Pertinent information concerning the organizations and their management involved in influencing the operation of the aircraft. The organizations include, for example, the operator; the air traffic services, airway, aerodrome and weather service agencies; and the regulatory authority. The information could include, but not be limited to, organizational structure

4 Australian Government, Australia's State Aviation Safety Program, April 2012, p. 6.

5 AIPA, *Submission 8*, p. 19.

6 AIPA, *Submission 8*, p. E2.

and functions, resources, economic status, management policies and practice and regulatory framework.[7]

CASA Special Audit

5.11 The operator, Pel-Air was subject to CASA surveillance prior to the accident. Between 1 June 2005 and 18 November 2009 CASA issued 34 requests for corrective action and one safety alert. The key findings related to deficiency with the operator's fatigue risk management and training and checking systems.[8]

5.12 It is important to note that the full extent of Pel-Air's lack of compliance with regulations was only discovered after the accident, when CASA undertook a Special Audit of the company (as discussed below). It appears that Pel-Air chose to put commercial imperatives ahead of safety. Despite the fact that CASA issued requests for corrective action and a safety alert, serious systemic issues and a lack of compliance were found within the company after the ditching.

5.13 This raises the obvious question of why CASA was seemingly unaware that its requests for corrective action and its safety alert were not being followed. The committee also considers that, in this context, the relative severity of CASA's action against the pilot when compared with its action against the company is curious.

5.14 The CASA Special Audit of Pel-Air was conducted over the period 26 November to 15 December 2009. The final report is dated 8 January 2010.[9] This was intended to be a confidential document but was made public as part of the ABC's *Four Corners* story on the accident, which screened on 30 August 2012.[10]

5.15 The CASA Special Audit discovered significant deficiencies within the Pel-Air operations which were drawn to the attention of Regional Express[11] and Pel-Air on 7 December 2009. Pel-Air voluntarily suspended its Westwind Operations pending the completion of the special audit.[12] The committee will include some of the 32 findings below because, although CASA publicly acknowledges that the operator and regulator could have done better,[13] the deficiencies have not been outlined in any detail.

Fuel policy and practice

5.16 The CASA Special Audit included the following deficiencies in the area of fuel policy and practice:

- inadequate fuel policy for Westwind operations;

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7 ICAO Annex 13, Ninth edition, App-2.

8 Mr John McCormick, *Committee Hansard*, 22 October 2012, p. 31.

9 Mr John McCormick, *Committee Hansard*, 22 October 2012, p. 33.

10 See www.abc.net.au/4corners/stories/2012/08/30/3579404.htm (accessed 4 March 2013)

11 Pel-Air Aviation Pty Ltd is a wholly owned subsidiary of Regional Express Pty Ltd (REX).

12 CASA Special Audit, 8 January 2010, pp 4–5.

13 Mr John McCormick, *Committee Hansard*, 15 February 2013, p. 9, 10 and 21.

- pilots use their own planning tools and there is no control exercised by Pel-Air Aviation Pty Ltd to ensure the fuel figures entered are valid;
- no policy exists to ensure that flight and fuel planning is cross-checked to detect errors;
- no alternate requirements specified for remote area and remote island operations;
- operations manual specifies 30 minute fuel checks – this is largely ignored by operating crew;
- criteria to obtain weather updates not specified in the operations manual; and
- practice of obtaining weather varies among pilots and does not appear to be conducted at appropriate times to support decision making.[14]

5.17 The committee notes that Civil Aviation Regulation (CAR) 234 states that it is the responsibility of the operator of the aircraft as well as the pilot-in-command to ensure there is sufficient fuel for the flight.[15] CAR 220 also states that an operator shall include in its operations manual specific instructions for the computation of the quantities of fuel to be carried on each route, having regard to all the circumstances of the operations, including the possibility of failure of an engine en route. A Request for Corrective Action (RCA) was issued in relation to CAR 220.[16]

5.18 The PIC reported that his practice and the practice of others was to allow for an amount of fuel to cover abnormal operations (depressurisation and single engine failure) rather than a specific calculation to determine a particular additional figure to be carried.[17] Mr Aherne pointed out that as noted in the CASA Special Audit, there was no method in the operations manual to assist with this.[18]

5.19 The committee heard that the ATSB correctly recognised that not uplifting sufficient fuel in Apia to cater for the possibility of depressurisation and engine failure did not contribute to the accident.[19] It is listed as a safety factor but not a contributing safety factor as the aircraft did not suffer depressurisation or engine failure.[20]

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14 CASA Special Audit, 8 January 2010, p. 5.

15 See www.casa.gov.au/scripts/nc.dll?WCMS:PWA::pc=PC_93397 (accessed 22 March 2013)

16 See CASA Special Audit, p. 13.

17 Mr Dominic James, *Committee Hansard*, 22 October 2012, p. 5.

18 Mr Bryan Aherne, *Submission 10*, p. 40.

19 *Confidential submission*.

20 ATSB report, p. 43.

Committee view

5.20 The committee notes that at the time of the accident CASA took the view that the company was non-compliant in the area of fuel planning guidance.[21] The committee also notes that CASA regulations specify that it is the responsibility of the operator as well as the pilot-in-command to ensure there is sufficient fuel for the flight.[22]

5.21 Pel-Air issued a revised fuel policy on 7 December 2009 noting that it had been identified and deemed appropriate that a more prescriptive company fuel policy and standardised flight planning procedure was required to guard against inadvertent application and/or miscalculation. Flights bound for Norfolk Island required an alternate at all times (regardless of the category or aircraft) and all fuel requirements were detailed. In addition, software for fuel planning was made available.[23] The ATSB report notes only that the Pel-Air Westwind fuel policy was reviewed and amended.[24]

5.22 In the committee's view, had the ATSB included more detail about these operational aspects, it could have provided valuable learning for similar operators.

Operational control

5.23 The CASA Special Audit included the following deficiencies regarding operational control:

- no operational decision-making tools provided to support crew in balancing aviation vs medical risks;
- once tasked, the pilots operate autonomously and make all decisions on behalf of the AOC [Air Operator's Certificate]. The AOC exercises little, if any, control over the operation once a task commences;
- the company does not provide domestic charts or publications to pilots and does not ensure that the pilots maintain a complete and current set;
- in many cases inadequate flight preparation time is provided (normally pilots are notified two hours prior to departure regardless of when the company becomes aware of the task);
- failure to maintain required flight records and no apparent checking by the company; and

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21 A Request for Corrective Action was issued in relation to CAR 220. CASA Special Audit, p. 13. Note: In 2012 CASA changed Request for Corrective Action (RCA) to Non-Compliance Notice (NCN) to clearly reflect that CASA believes regulations have been breached. See http://www.casa.gov.au/scripts/nc.dll?WCMS:STANDARD:1001:pc=PC_100847 (accessed 19 April 2013).

22 ATSB report, p. 25.

23 *Confidential document*. See also CASA Special Audit, p. 12.

24 ATSB report, p. 48.

- pilots use their own planning tools and there is no control exercised by Pel-Air Aviation Pty Limited to ensure the data entered is valid.[25]

5.24 The CASA Special Audit noted there was a lack of procedures relating to the company's required Standard Operating Procedures:

> Despite the existence of a comprehensive Operations Manual suite, the Westwind Operations…do not have appropriate procedures in place or adequate documentation relating to the company's required Standard Operating Procedures (SOPs). This lack of articulation in policy and procedures had led to a range of deficiencies that includes deficient fuel policy; pilots using unapproved flight and fuel planning figures, inconsistent and undocumented training practices and lack of internal compliance or Quality audits.[26]

5.25 Findings around flight/fuel plans included the comment that pilot workload and potential for error is increased without the provision of standards plans where practicable:

> Interviews with Westwind pilots revealed that the company does not provide any standard plans or alternate information for international flights. Pilots reported creating their own standard plans after they had flown the route. Without the provision of standard plans, where practicable, the workload and potential for error is increased.[27]

5.26 Regarding weather, the Special Audit noted that if the operator had provided additional information this could have resulted in a different outcome:

> Interviews with Westwind pilots revealed the company does not provide destination local information on remote islands including items such as terrain, services and local weather conditions. This information may have been of assistance in the situation of aircraft registration VH-NGAs fuel exhaustion. Specific information on the location of Navigation Aids (VOR) in relation to the runway and predicting local weather conditions based on Aviation Routine Weather Reports (METAR) trends could have resulted in a different outcome.[28]

5.27 Another comment was that the company allowed two hours from call-out to time of departure. The CASA Special Audit found this amount of time inadequate to plan for an international flight to a new destination without assistance from the company. As a result of the CASA Special Audit, this was increased to three hours as well as providing flight planning support until new planning software was provided.[29]

5.28 Mr Aherne stressed that given the reactive nature of the aeromedical evacuation work and the high risk environment, he would have expected more support

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25 CASA Special Audit, 8 January 2010, p. 6.

26 CASA Special Audit, 8 January 2010, p. 16.

27 CASA Special Audit, 8 January 2010, p. 13.

28 CASA Special Audit, 8 January 2010, p. 14.

29 CASA Special Audit, 8 January 2010, p. 16.

from the operator to determine in advance the risks and threats and put in place appropriate procedures and this was not done until after the accident.[30]

5.29 AIPA also noted its expectation that the organisation must match the complexity of the intended operations. It stated:

> 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 [ATSB] investigation.[31]

Committee view

5.30 The ATSB report noted Pel-Air's lack of standardisation for flight planning but appears to indicate it was a pilot problem. The statement that the variation in procedures between crews made it difficult for the operator to oversee consistent conduct of flights is perverse.[32] In the committee's view ensuring standardisation of crew procedures should be the operator's responsibility to be addressed via the operations manual, training guidance and check flights.

5.31 The ATSB report noted that following the accident an approved system for flight and fuel planning was implemented.[33] It is clear that the CASA Special Audit found poor oversight and inadequate assistance from the operator. Software to assist with flight planning (fuel, weather, NOTAMS) as well as satellite phones has subsequently been provided. En route software has been provided to monitor fuel burn and guidance has been issued on fuel burn and obtaining weather updates.[34] As a result of the CASA Special Audit all these actions have now been put in place to ensure flight crews are well supported by the operator. It is the view of the committee that these deficiencies had a role to play in the development of the accident.

5.32 Again, in the committee's view, had the ATSB included more detail about these operational aspects, it could have provided valuable learning for similar operators.

Training

5.33 The CASA Special Audit found the following training deficiencies:

- inadequate Civil Aviation Order 20.11 training (life raft refresher and emergency exit training deficient);
- inadequate documentation of training programs;
- no formal training records for pilot endorsement and progression;

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30 Mr Bryan Aherne, *Committee Hansard*, 22 October 2012, p. 10.

31 AIPA, *Submission 8*, p. 10. See also Mr Mick Quinn, *Committee Hansard*, 22 October 2012, p. 19.

32 ATSB report, pp 37–38.

33 ATSB report, p. 48.

34 Confidential document.

- inadequate records of remedial training;
- endorsement training is the minimum required (five hours) and relies on regular operations to consolidate training;
- no mentoring program for First Officer to Command; and
- deficiencies in training records identified.[35]

5.34 AIPA emphasised that techniques studied 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 and checking regime, to convert any residual theory knowledge into demonstrated operational competence.[36]

5.35 The Special Audit noted that annual proficiency checks ('wet drills') had not been completed for all crew of aircraft carrying life rafts. In addition, a review of crew training records indicated there were no certificates for the completion of Emergency Procedures training as required.[37]

5.36 The special audit found that in relation to training flights:

> The structure of training flights appears to be a series of unstructured checks rather than a period of mentoring or training. The company needs to review the training requirements of the Captains and Co-pilots to ensure that a structured training program is implemented and training is conducted only by approved Training or Checking captains.[38]

5.37 Mr Aherne argued that lack of evidence of training is evidence that training was not conducted. He added that records are a central part of aviation safety. The lack of training and ongoing supervision is dismissed by the ATSB by suggesting (incorrectly) that the operator was not required to record this training because it was consistent with the operations manual procedure not to do so. Mr Aherne was sceptical that the ATSB found it acceptable that there was no requirement in the operations manual to record such training as it effectively allows operators to claim that the training was conducted and not have to offer any evidence.[39] AIPA also stressed that it was a 'curious omission not to make clear in the report if the operator was not meeting its training and checking responsibilities and CASA had not previously detected it'.[40]

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35 CASA Special Audit, 8 January 2010, p. 6.

36 AIPA, *Submission 8*, p. 14.

37 CASA Special Audit, 8 January 2010, p. 18.

38 CASA Special Audit, 8 January 2010, p. 19.

39 Mr Bryan Aherne, *Submission 10*, p. 10, 21; See also AIPA, *Submission 8*, p. 14.

40 AIPA, *Submission 8*, p. 12.

5.38 The ATSB has since acknowledged that there was a requirement in the operations manual for the content of any training to be recorded and this error will be corrected as soon as possible.[41]

Fatigue management

5.39 The CASA Special Audit found the following deficiencies in relation to Pel-Air's management of fatigue:

- over-reliance on FAID[42] as the primary fatigue decision making tool;
- inadequate adherence to FRMS [Fatigue Risk Management System] policy and procedures;
- excessive periods of 24/7 standby;
- lack of FRMS policy regarding fatigue management for multiple time zone changes; and
- fatigue hazard identification, risk analysis, risk controls and mitigation strategies not up-to-date and documented (advice provided during the FRMS review indicates that Pel-Air Aviation Pty Ltd considered the ad hoc aero-medical operations to be its highest fatigue risk and yet there is no recent documented evidence to confirm these risks are being actively managed).

5.40 CASA's Human Factors team conducted the FRMS section of the Special Audit and produced a separate report which was not provided to the ATSB. This report, dated 21 December 2009, has been made public by the committee.[43] It noted that:

> Previous CASA oversight did not provide sufficient evidence to confirm the Pel-Air FRMS had ever been managing fatigue risk to a necessary standard. Much of the correspondence and closure of RCAs [Request for Corrective Action] was based on planned actions but no evidence was collected to confirm appropriate corrective actions had been completed.[44]

5.41 Although CASA noted the findings were reproduced in the CASA Special Audit,[45] the FRMS report contains much more information than the Special Audit. In particular the comments about the lack of CASA oversight were not included in the special audit. On this issue the FRMS report stated:

> It is considered that the oversight by CASA has been inadequate as there is evidence to support that many of the problems identified by CASA during

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41 ATSB, *Supplementary submission*, 19 October 2012, p. 1. The ATSB indicated that this oversight was due to a typographical error.

42 FAID is a fatigue assessment tool.

43 CASA, Additional information, number 19.

44 CASA Human Factors Section Special Audit of Pel Air Express Fatigue Risk Management System, 21 December, 2009, p. 3.

45 Mr Greg Hood, *Committee Hansard*, 15 February 2013, p. 5, 10; *CASA Supplementary submission*, 1 March 2013, p. 3.

> surveillance (Nov 04–Mar 08) were never appropriately actioned. There is a lack of any clear evidence to support corrective actions had been implemented and confirmed by CASA that they were effective. If this process is indicative of broader practices of CASA it is considered CASA is exposed to unnecessary risk, particularly if required to provide evidence to support how it approved an operator's system, in this case, their FRMS.[46]

5.42 CASA also sought advice from the UK Civil Aviation Authority which, using a more advanced fatigue management system (SAFE), showed the flight would not have been able to take place under the UK regulatory system.[47] This material, which has also been published by the committee, was also not provided to the ATSB. The ATSB report only noted that enhanced fatigue risk management procedures were developed by the operator.[48]

5.43 Mr Aherne pointed out that as an independent safety investigator, the ATSB should not assume that a CASA audit will identify all the deficiencies present in the review of an FRMS, particularly those that reflect poorly on itself.[49]

5.44 After reviewing the CASA FRMS audit and acknowledging it provided more detailed information than the CASA Special Audit, the ATSB noted the limitations and concerns about the processes used by the operator to manage fatigue risk to an appropriate standard. However it concluded that:

> [I]t is unlikely that, even if the operator had more robust processes, a different decision about whether to conduct this trip would have been made.[50]

Committee view

5.45 Leaving the UK analysis to one side, the CASA FRMS report combined with the evidence received by the committee provides a robust case that the management of fatigue was not adequate. See Chapter 8 for further discussion of fatigue.

5.46 The committee notes the ATSB conclusion that 'with suitable risk controls in place, the risk of these flights [Norfolk Island to Samoa and Samoa to Norfolk Island] could have been reduced to an accepted level for the type of operation'.[51] The committee contends however, that the CASA Special Audit clearly shows these suitable risk controls were not in place.

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46 CASA Human Factors Section Special Audit of Pel Air Express Fatigue Risk Management System, 21 December, 2009, p. 6.

47 CASA, Additional information, number 15. Note: The ATSB has since questioned the UK analysis. See ATSB, Answers to written question taken on notice from 15 February 2013 hearing, number 4.

48 ATSB report, p. 48.

49 Mr Bryan Aherne, *Supplementary submission*, 18 March 2013, comments on question 10.

50 ATSB, answers to written questions on notice from 15 February 2013, number 16.

51 ATSB, answers to written questions on notice from 15 February 2013, number 16.

5.47 These clear contradictions and the fact that the ATSB maintains its position in the face of the evidence are grounds to instigate a quality checking process (as outlined in Chapter 4) which informs the Commissioners but is transparent and available to the minister and the Parliament.

Conclusions of the Special Audit

5.48 The CASA Special Audit concluded:

> The Special Audit identified significant deficiencies within the Westwind operations in Pel-Air. These deficiencies existed and had not been identified or rectified which is indicative of broader organisational failures. The company's executive management relied upon the Westwind Standards Manager to apply company policy and procedures to ensure the standard of operations were conducted to the appropriate regulatory and safety levels. It was evident that this had not taken place to the regulatory or safety standard required.[52]

5.49 It also noted:

> A lack of formal company guidance in critical areas such as fuel policy, flight planning and defect reporting placed the onus on the individual pilot to apply his/her own personal standard of airmanship.[53]

5.50 AIPA noted its expectation that if breaches and deficiencies were found during an audit by the regulator that these would be included in the report.[54] First Officer Ian Whyte questioned why the items from the CASA Special Audit were not found before the accident. He argued that in order to be proactive about preventing accidents, audit processes should be picking them up without an accident to prompt it. He added that the investigation should look at the adequacy of the audit processes before the accident to identify how they could be improved to pick up issues earlier.[55]

5.51 Other witnesses also stressed the serious deficiencies identified in the CASA Special Audit. Mr Aherne noted that the 'deep systemic problems identified by the CASA Special Audit are indicative of the latent conditions within the operator which has shown direct links to the evolvement of the accident sequence'.[56] He elaborated:

> I note that in CASA's special audit the operator received a request for correction of action on three failings of the Civil Aviation Act in terms of oversight of the organisation under section 28BE. That is a very serious breach.[57]

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52 CASA Special Audit, 8 January 2010, p. 7.

53 CASA Special Audit, 8 January 2010, p. 42.

54 Capt. Geoffrey Klouth, *Committee Hansard*, 22 October 2012, p. 24.

55 First Officer Ian Whyte, *Committee Hansard*, 22 October 2012, p. 24. See also Mr Mick Quinn, *Committee Hansard*, 22 October 2012, p. 19.

56 Mr Bryan Aherne, *Submission 10*, p. 26. See also Mr Mick Quinn, *Submission 11*, pp 4-5.

57 Mr Bryan Aherne, *Committee Hansard*, 22 October 2012, p. 11. See also Mr Mick Quinn, *Committee Hansard*, 22 October 2012, p. 18.

5.52 The committee notes that Pel-Air was cooperative with the investigation and:

> While the organisation's failures raised serious concerns for CASA, the actions initiated by Pel-Air's Executive management following the accident for VH-NGA provided confidence to CASA that the Executive is committed to identifying and correcting those failures.[58]

The CASA position

5.53 Mr John McCormick told the committee of CASA's position regarding action required from the operator:

> In this connection, the suggestion has been made that CASA has in some way acted to shield this operator from appropriate regulatory action by CASA. This is manifestly untrue. Here too the claim seems to be intended, at least in part, to divert attention away from the actual facts of the matter. Immediately after the accident in November 2009, I directed, and CASA undertook, a multidisciplinary special audit of Pel-Air's operations under its air operator's certificate. As a result of this audit, CASA placed a condition on Pel-Air's operating certificate, requiring the company to implement a management action plan, with 57 action items identified to address deficiencies. By June 2010, Pel-Air had satisfied CASA that all the conditions had been met and, following a further audit, CASA removed those conditions from the air operator's certificate.[59]

5.54 Mr McComick explained that this course of regulatory action is not different from action CASA has taken with a number of other operators.[60] After prompting, Mr McCormick did acknowledge the operator should have done more to support the crew:

> I have said all along that the company could have done better here. We have never resiled from that. The company could have supported the pilot in command more…As for the company supporting him, yes, the company could have supported him more. We have said that all along. I think also the fact that Dominic James rang the company—or attempted to ring them with one phone call—and no-one answered the phone is indicative that Mr James, by his actions, has demonstrated that the company could have been in a position to help him flight plan that flight.[61]

What role did the CASA Special Audit play in the ATSB report?

5.55 The CASA Special Audit, was not voluntarily provided by CASA and not formally requested by the ATSB under section 32 of the TSI Act until 4 July 2012. This formal request was prompted after a letter from Mr James' lawyer to the ATSB on 3 July 2012 which noted their expectation that the ATSB would have obtained the CASA report but there did not appear to be any reference to it in the draft ATSB

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58 CASA Special Audit, 8 January 2010, p. 7.

59 Mr John McCormick, *Committee Hansard*, 22 October 2012, p. 31.

60 Mr John McCormick, *Committee Hansard*, 22 October 2012, p. 31.

61 Mr John McCormick, *Committee Hansard*, 22 October 3012, p. 40.

report. The letter asked for confirmation that information from the CASA Special Audit would be included in the ATSB report. On 16 July 2012, the ATSB responded to Mr James indicating that the CASA Special Audit had been reviewed and it did not indicate any significant changes were warranted but some amendments were made.[62]

5.56 AIPA expressed concerns with the view of CASA and the ATSB that nothing in the CASA Special Audit was relevant to the accident. It stated that while it only has access to information on the public record, that information alone raises serious doubt about the organisational context of the accident.[63] It highlighted that:

> 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 the accident appears to be at odds with modern human factors theory.[64]

Committee view

5.57 The committee commends the actions taken by Pel-Air to address the deficiencies identified by CASA, some of which were mentioned in the ATSB report.[65] However, the committee is concerned that the methodology used by the ATSB to only highlight some of the actions taken by the operator since the accident, fails to put forward a true appreciation of the culture and organisation at the time of the accident. The committee is surprised by the view of the ATSB and CASA that the deficiencies identified in the Special Audit would have had no effect on the accident.

5.58 Following the accident the operator was required to revise its fuel policy, flights to Norfolk Island are now required to carry fuel for an alternate, an approved system for flight and fuel planning was implemented, portable satellite telephones were supplied for international flights, enhanced fatigue risk management procedures were developed, both pilots are now required to check flight and fuel plans, regular in-flight weather updates were mandated and contingency planning enforced and a refresher training course for Westwind pilots was implemented.

5.59 The committee notes that the accident occurred within a system that did not impose suitable check and training activities to guard against drift towards unacceptable and potentially unsafe practices. The committee therefore believes that organisational factors should have been key part of this investigation.

5.60 The committee asks itself whether, given the extensive changes taken by the aircraft operator, this accident could occur again. It would seem that is highly unlikely which supports the committee's view that the organisational deficiencies contributed

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62 Mr Bryan Aherne, *Submission 10*, p. 36.

63 AIPA, *Submission 8*, p. 17; See also Mr Gary Currall, *Submission 9*, p. 2.

64 AIPA, *Submission 8*, p. 17.

65 ATSB report, pp 48–49.

to the environment that the flight crew was working in and therefore had a role to play in the development of the accident.

5.61 Given the significant deficiencies identified by the CASA Special Audit, it is curious and concerning that the ATSB report contains no analysis and the blithe comment that 'the operator's procedures complied with the relevant regulatory guidance'.[66] This is false and is grounds to reopen the inquiry (see Chapter 6). It is equally troubling that CASA knowingly allowed the ATSB to make this statement.

5.62 The ATSB's failure to request the CASA Special Audit until the very end of its investigation is serious. It appears this had not been requested earlier as the systemic issues had already been scoped out of the investigation. It is clear that the CASA Special Audit identified serious deficiencies with the operator and included some issues with regulatory oversight. The committee believes that not requesting it earlier was a missed opportunity to check and remedy the scope of the investigation. When the CASA Special Audit arrived, the scope of investigation should have been reviewed.

5.63 In any event, given the MOU between CASA and the ATSB, in particular paragraph 4.4.6:

> CASA agrees that if a CASA Officer is known to have information that could assist the ATSB in the performance of its investigative functions, CASA will undertake to advise the ATSB of the existence of the information.

The failure of CASA to provide the report to the ATSB earlier is also concerning.

5.64 It is questionable that the ATSB gave full consideration to the content of CASA's Special Audit of Pel-Air because the request for the audit was made so late in the investigation. In fact, the ATSB's formal request, which was only prompted by the pilot's lawyers, was made more than 2.5 years after the accident occurred and approximately one month before the final ATSB report was published. The document prepared by the ATSB indicating the effect of the CASA Special Audit on the ATSB report[67] appears to the committee to be joining the dots and making connections after the ATSB report had been written rather than a thorough consideration of the evidence early in the investigation including its possible effect on the scope of the report.

Other operator issues

Organisational culture

5.65 The CASA Special Audit makes mention of cultural issues associated with compliance by Pel-Air's crew. It found:

> …the level of commitment to compliance and safety based on the actions of the Standards Manager did not 'set the tone' for the importance of safety or compliance within the organisation. Fundamental to the establishment of a

66 ATSB report, p. 37.

67 ATSB, *Supplementary Submission*, 19 October 2012, Appendix A.

> favourable safety culture within an organisation is the role of management. The values and beliefs of the organisation must be driven from 'the top down'. Furthermore, management commitment to achieving regulatory compliance appeared to be lacking. Pilots reported broken hyperlinks on the extra-net for required documentation (International operations), incomplete flight records being compiled (including those compiled by the Westwind Standards manager) and lapses in mandatory training and flight medical status.

5.66 It also highlighted that the lack of formal guidance from the company in important areas such as fuel policy and flight planning effectively placed the onus on individual pilots to apply their own personal standards of airmanship.[68]

Committee view

5.67 An aviation operator has responsibility for the flight standards delivered. The CASA Special Audit appears to indicate that at the time of the accident, Pel-Air did not adequately address the risks in the high risk aero-medical environment and did not adequately guide and support its crew.

Role of co-pilot in flight planning

5.68 We learn nothing about the appropriate role of co-pilots from the ATSB report which ignores the role of first officers in terms of crew resource management (CRM). The ATSB report states that the co-pilot was not required by Pel-Air to participate in the flight planning process.[69] This is indeed a serious shortcoming in a two-crew environment where a co-pilot could be expected to intervene to prevent an unsafe situation. The ATSB report noted action taken by Pel-Air that both pilots are now required to check flight and fuel plans before departure.[70] While the committee is pleased to see this issue identified, the diminution of the role of Pel-Air's First Officers should have received more emphasis as may not just an issue for Pel-Air Operations Manual and practice, but may have been an issue for similar operators in the aviation industry.

5.69 Crew resource management is based on the premise that all available resources will be applied to operational decisions to optimise safety and that operators are responsible to institute procedures to ensure consistency and effectiveness. The committee finds it curious that this issue was important enough for the ATSB to mention that Pel-Air has changed its policy but not important enough to discuss whether it has wider implications beyond Pel-Air.

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68 CASA Special Audit, p. 42.

69 ATSB Report, p. 3.

70 ATSB report, p. 48.

Issues specific to the accident flight

5.70 In relation to the accident flight the committee heard detail about the effect on fuel planning when using a non-RVSM aircraft in RVSM airspace;[71] the use of Noumea as an alternate;[72] commercial pressures;[73] the suitability of the aircraft for the work;[74] and the role of the chief pilot.[75] The committee acknowledges the evidence received on these issues but as they appear to be quite specific to the accident flight and actions of the PIC rather than demonstrating a broader industry learning, they will not be discussed in any detail.

Committee view

5.71 The CASA Special Audit clearly shows serious organisational deficiencies. The committee commends Pel-Air for its actions to improve its safety standards. However the committee believes that organisational factors should have been a key part of the ATSB investigation and that the broader aviation sector would have benefitted from the learnings of this particular incident.

5.72 The committee cannot understand how CASA and the ATSB can continue to claim that these organisational deficiencies made no contribution to the ditching. They are clearly a crucial part of the safety information that the ATSB should have considered and where relevant included in its report so as to inform the broader aviation sector.

5.73 The committee is concerned about the ATSB attempting to predict the future risk for operators. The ATSB should analyse why the accident happened and the industry can draw its own lessons. The operators are best placed to assess how the lessons may affect their current and future operations. The ATSB are even more removed from the everyday operations of an AOC holder who has not suffered an incident than CASA are. The Chambers Report indicated that even with its routine audits, CASA can be quite unaware of the true nature of an AOC holder's operations.

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71 For the RVSM (Reduced Vertical Separation Minima) issue see: AIPA, *Submission 8*, p. 14; Mr Gary Currall, *Submission 9*, p. 3; Mr Richard Davies, *Submission 12*, p. 12; Mr Dominic James, *Committee Hansard*, 22 October 2012, p. 5, 7; Mr Mick Quinn, *Submission 11*, p. 31; Mr Martin Dolan, *Committee Hansard*, 21 November 2012, p. 16; Mr Bryan Aherne, *Committee Hansard*, 22 October 2012, p. 10. See also Mr Bryan Aherne, *Submission 10*, pp 28–33; Mr Martin Dolan, *Committee Hansard*, 21 November 2012, p. 16. See also ATSB, Answers to questions taken on notice from 21 November 2012 hearing, number 4; Mr Bryan Aherne, *Supplementary submission*, 8 February 2013, p. 7.

72 For Noumea issue see: Mr Bryan Aherne, *Submission 10*, p. 33; Mr Mick Quinn, *Submission 11*, p. 17; CASA, *Supplementary submission*, pp 11-12.

73 Mr Mick Quinn, *Submission 11*, p. 8.

74 For suitability of aircraft see: Mr Dominic James, *Committee Hansard*, 22 October 2012, p. 7.

75 For role of the chief pilot see: Mr John McCormick, *Committee Hansard*, 22 October 2012, pp 33–35; Capt. Geoffrey Klouth, *Committee Hansard*, 22 October 2012, p. 25; Mr Bryan Aherne, *Committee Hansard*, 22 October 2012, p. 10; Mr John McCormick, *Committee Hansard*, 22 October 2012, pp 33, 35 and 36. See also Mr Mick Quinn, *Submission 11*, p. 29.

5.74 The committee will now turn to issues identified regarding oversight by the regulator.