Australian Government
Australian Transport Safety Bureau

Chief Commissioner

20 November 2012

Mr Stephen Palethorpe
Committee Secretary
Standing Committee on Rural and Regional Affairs and Transport
Australian Senate
PO Box 6100
PARLIAMENT HOUSE CANBERRA 2600

Via email: rrat.sen@aph.gov.au

Dear Mr Palethorpe

Aviation Accidents Investigations Inquiry

The Australian Transport Safety Bureau (ATSB) has reviewed the submission to the Aviation Accidents Investigations Inquiry by Mr Richard James Davies and would like to comment on the accuracy of the issues raised in that submission. This supplementary submission does not address every aspect of Mr Davies' submission, but responds to what we take to be the main issues raised about the ATSB's investigation and report.

Fuel loads and calculations

The data used by Mr Davies is not consistent with the Israeli Aircraft Industries (IAI) Westwind 1124A (1124A) Operational Planning Manual and so is in error in the following areas:

- The fuel flows used by Mr Davies are generally about 10% higher than those contained in the IAI 1124A Operational Planning Manual.
- The cruise speeds used by Mr Davies do not account for the difference between Indicated Mach No. and True Mach No., resulting in the true airspeed used by Mr Davies in the cruise being over 5kts more than the correct figure.
- The fuel load used in Mr Davies calculations is 1,100 US Gallons (USG); however, the certified usable fuel capacity of the aircraft main tanks is 1,074 USG and the certified maximum capacity of the aircraft main tanks is 1,090 USG.

Flight profile

The flight profile used by Mr Davies is not consistent with the aircraft's actual capabilities as identified in the IAI 1124A Operational Planning Manual. The aircraft was not capable of achieving the flight profile contained in the submission. In addition, according to this manual, the aircraft was unable to climb directly to 39,000 ft at the weights and temperatures used by Mr Davies.

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Flight plan climb and cruise performance

In respect of the flight plan climb and cruise performance used by Mr Davies, this was not that which the crew actually used. In fact:

- The aircraft did not climb directly to 39,000 ft, but instead levelled at a lower flight level and was eventually cleared to 39,000 ft about 15 minutes later. As stated above, there are no published figures in the IAI 1124A Operational Planning manual for the aircraft to climb to or cruise at 39,000 ft at the weights and temperatures used by Mr Davies.
- The aircraft did not reach 39,000 ft until 59 minutes after departure. Mr Davies has calculated that the aircraft was at 39,000ft thirty six minutes after takeoff.
- The flight crew reported that, after reaching 39,000 ft, they adjusted the aircraft's performance to what approximated long range cruise. This would result in significantly better fuel performance than the cruise figures used by Mr Davies.

Weather forecast validity

Mr Davies stated that the pilot had valid forecasts for alternate airports on departure out of Apia, when in fact the forecasts he held had been superseded and were invalid.

The pilot had obtained forecasts for Nadi and La Tontouta before departing Sydney on the outbound flight. They covered a 24-hour period but. the subsequent issuing of new forecasts every 6 hours, or when amended due to significant changes, rendered the original ones invalid. The relevant International Civil Aviation Organization Annex 3 standard, at paragraph 6.1.2, states that:

> [T]he issue of a new forecast by a meteorological office, such as a routine aerodrome forecast, shall be understood to cancel automatically any forecast of the same type previously issued for the same place and for the same period of validity or part thereof.

Diversion possibilities

In his submission, Mr Davies claimed that the aircraft could not have diverted to La Tontouta in New Caledonia from the 0904Z and 0928Z positions. Mr Davies based this on his having calculated the fuel remaining at Norfolk Island to be 709 lbs, whereas the pilot reported that the fuel on board the aircraft was approximately 1,300 lbs after the aircraft had completed one missed approach at Norfolk.

Projecting this known fuel quantity of 1,300 lbs back to the 0904Z and 0928Z positions indicates that the aircraft actually did have sufficient fuel at the 0904Z and 0928Z positions to divert to and arrive at La Tontouta with required fuel reserves intact. This was possible even with headwinds in excess of those forecast.

Conclusion

The submission by Mr Davies contains a number of inaccuracies that affect Mr Davies' calculated fuel performance and lead to an incorrect conclusion that the

aircraft did not have sufficient fuel to divert to La Tontouta at the 0904Z and 0928Z positions. These errors are also present in Mr Davies calculations for the 28,000 ft scenario in his submission.

A number of other points raised by Mr Davies have already been addressed by the ATSB in its supplementary submission of 19 October 2012 that responded to the submissions and evidence of a number of other parties.

I would be happy to discuss this supplementary submission and any issues arising from it with the Committee.

Yours sincerely

Martin Dolan