Submission to the Senate Inquiry into the ATSB findings of the ditching of the Westwind II VH-NGA off Norfolk Island on 18 November 2009

This submission is made under Parliamentary Privilege

I am John Lyon an General Aviation professional airplane pilot and senior Flight Instructor.

I have been flying for 48 years, professionally for 22 years and hold a range of ratings and endorsements up to Grade One Flight Instructor and on the larger twin engine fixed wing light aircraft.

My submission concerns what I believe to be the 'background' reasons that relate to this accident and may indeed relate to certain other accidents as well. I refer to the state of aeronautical knowledge presently involved with attaining Commercial and Airline Transport Pilot Licenses.

When I 'look' at this accident I am left wondering how it happened, or more correctly how the circumstances that led to the accident developed into a 'blind alley' scenario.

I am aware that certain operational limitations related to this flight, in particular the crew's 'normal operations' access to Noumea.

As I consider the flight's progress it seems that there were at least four (4) distinct 'alerts' to the crew that could have, perhaps, led to a different outcome. This is NOT to imply or assert any reflection on the crew, but rather to reflect on the state of their aeronautical knowledge. We cannot, in fairness, 'blame' someone for a mistake if, upon that person being placed in a 'situation' in an un- or under-informed fashion, they then make the 'mistake'. Also, we MUST accept that we now have the twin benefits of hind-sight and our 'armchairs'.

The fundamental question is "why didn't the crew load the maximum fuel possible?"

I believe that the answer to that question lies in the style of the 'regulations' and their perceived manner of enforcement coupled with a simplistic approach to operational planning. As has been pointed out by others, Aviation 'regulations' are frequently unclear, obtuse, ambiguous and irrational. The differences between guidance material such as CAAP 234 and the Operations Manual and indeed within that manual, evidence this state of affairs. I acknowledge that the nature of Aviation operations make the regulatory task 'challenging', but not impossible. Other areas of activity of a 'technical' nature seem to manage without this turgidity.

So, putting regulatory (of what-ever kind) considerations aside; "why didn't the crew load additional fuel?"

It seems to me that the focus in this situation was one of 'following the rules' as distinct from; looking at the overall situation, considering that situation and its associated risks and then planning to accommodate those risks. This is an approach to flight planning that I, as an instructor, encounter on numerous occasions. People frequently don't look beyond just the immediate planning aspects of the chosen route and virtually disregard the 'what if's', that can and do occur. It seems to me that this is because, on the vast majority of occasions, there are 'options' along the way; thus 'basic', or 'first degree', planning suffices due to the locale. For instance; on a flight from Sydney to Dubbo, a distance of only 170nm, there are a number of such 'options' that can be accommodated, if needed, during flight. So pre-flight preparation becomes more a matter of noting such locations and does not need to extend to consideration of planning for a diversion in a deliberative manner. Whereas on this flight there were really no such, 'along-route', options available; but the mind-set of planning from 'A to B' seemed to prevail; "the weather looks acceptable, so let's go". But, the question remains: "how does such a mind-set develop"?

I believe that it develops from two principal causes. The first being the nature of the 'knowledge' section of the CPL & ATPL syllabi. The second being the nature of the navigation component of the 'flight' section of the CPL syllabus.

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The 'knowledge' section of the syllabi.

Today's exams are of a multiple choice style. They seek to test the candidate's knowledge of the subject matter by asking direct questions. In the Flight Planning and Airplane Performance sections the exams seek to confirm, or otherwise, the candidate's ability to extract data and use it correctly in the instance described in the specific question. The questions don't and, due to their style, can't, test the candidate's ability in a more general, subjective, real life type scenario; such as developed in the subject instance. Thus, this 'subjective judgement' ability isn't developed by the candidate.

By way of example; for clarification of my point: a question might be asked about how to calculate PNR (Point of No-Return). This will involve providing the candidate with the relevant data and asking him/her to identify the "nearest/most correct" answer out of four or five possible responses. The questions do not go to consideration of when and under what circumstances a PNR calculation becomes 'necessary', or 'advisable'. What then is tested is 'functionality' rather than 'applicability'.

What then is the relevance of this situation in this instance?

When I first 'looked' at this flight virtually the first thing I noted was that, over the 1450nm (4+ hours flight timer) of the route, there would be no intermediate places to land if conditions required it. So, my reaction was to consider alternatives to Norfolk REGARDLESS of any rules, of what-ever kind. I considered this to be a matter of 'common sense' (notwithstanding Mark Twain's remarks in that regard) otherwise known as survival. So, why the variation in approach? The answer I believe lies in my experience. I first sat for and passed Commercial Pilot License exams in 1967. The difference is that in those days the exams were 'essay' type and in these areas of Flight Planning and Airplane Performance the questions were scenario based and the candidate had to calculate/derive his/her answer and submit it, not mark one of four/five 'answers' as in a multiple choice exam. Thus the candidate had to learn to 'appreciate' ALL the information related to the flight and make a, somewhat, subjective decision and then justify it.

In considering 'knowledge', it is often referred to as being in four levels. These are 'rote', 'understanding', 'appreciation' and 'correlation'. The question is; "at what level of knowledge do professional airplane pilots need to be, to be able to conduct operations with acceptable outcomes"? Please note the absence of the words 'safety' or 'safely'.

In this instance I believe that the crew's level of knowledge was inadequate, given that a Risk Management approach to their planning may well have seen a diversion to Noumea even before reaching Norfolk. And if they had carried the additional fuel they would have had sufficient to proceed to Norfolk, conduct an 'approach' and then divert to Noumea where the conditions were better.

The final question is; "who should shoulder the responsibility for the crew's level of knowledge and what should be done about it"?

The navigation component of the CPL flight training syllabus

In my experience most people under-going flight training for the Commercial (Aeroplane) Pilot License do so on a non-range limited basis. That is, the routes chosen and the loads carried are such that the airplane being used for the training does not get into. What can be called, a 'range-limited' condition. That is; on training flights trainees load 'full fuel' with the planned landing places being well within the range of the airplane. A typical Commercial training flight might be, in the case of Sydney, from Bankstown to Tamworth, a distance of approximately 180nm, versus a range of 450-500nm for a typical single engine airplane used for such training.

The consequence of this is that the trainee does not need to make the same types of considerations and decisions that he/she would when flying in the 'range-limited' mode of operation. Thus the significance

of 'range-limited' operations does not become embedded during the pilot's training with the planning processes being thus relatively simple in nature.

A further aspect of the training situation is that the airplanes used are 'small', typically 1200-1300kg MTOW, or up to 1800kg if a 'twin' is used. Such airplanes can be operated from just about any 'recognised' airfield, let alone the airport for a regional town. Again this leads to a training environment that does not reflect the operational reality of the kind involved in this instance.

It appears to me that the result of this situation is that planning takes on the 'appearance' of being 'simple', when, in fact, for operations such as this, it can be quite intricate; that is it has many cross-related interdependent modes.

Considerations for planning the subject flight

The flight route is 1450nm over open ocean with no suitable landing sites en-route.

The flight will take approximately $4^{1}/_{4}$ hours and require **at least** 1100 USG of fuel.

The fuel burn rate will approximate to 210 USG/hr.

The destination is 'known' for its changeable weather, frequently on a deteriorating nature.

Action

Plan to Norfolk Island with enough fuel for 2 approaches then divert to Noumea (notwithstanding the logistic 'situation' concerning Noumea which was a 'company' resolvable matter)

SUMMARY

I acknowledge that I have not undertaken a full re-examination of the ATSB report and the interaction between the ATSB and CASA, as that has been exhaustively done by others. Notwithstanding that fact, it seems to me that the situation leading to this accident contained a flaw, briefly referred to by others, but not expanded upon by those others, that is based in a low level of knowledge by participants, at multiple levels.

My remarks above relate primarily to the flight crew, but they also extend to the company management, its documentation and procedures, which being sanctioned by CASA makes CASA an 'involved' party also.

My view is that the manner and nature of training for Commercial and Airline Transport Pilot Licenses needs change with a view to seeing that the training is more representative of operational reality and that the level and scope of knowledge is expanded accordingly.

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