

**To:** Fawcett, David (Senator); FADT, Committee (SEN)

**Subject:** SFADT Submission: Super Sea Sprite - Lessons Still to be Learned and Why

**Subject: SUPER SEA SPRITE: LESSONS STILL TO BE LEARNED AND WHY**

Thank you for the call on Friday and the quite illuminating and, hopefully, worthwhile discussion that ensued.

In relation to the Super Sea Sprite Helicopter (SEA1411) debacle, I commend the following to you as a submission of evidence to the work of the Senate FADT Inquiry into defence procurement.

Back in 1999, my company, Australian Flight Test Services Pty Ltd, was contracted by DGTA (Directorate General Technical Airworthiness) to do a review of the contractor furnished SSHA (System Safety Hazard Analysis) on the Kalkara Unmanned Aerial Target (UAT). Purchase Order No 1N06CN dated 05 February 1999 refers. The Kalkara system was being procured by the Department of Defence under one of the very early joint projects, JP-7.

The attached AFTS Report No 001 + Annex A was the principal outcome of this tasking.

As a result of this work, DGTA recommended to the Head of Aerospace Systems Division (HASD) that AFTS be engaged by the JP-7 Project Office within the NASPO (Naval Aviation Systems Project Office) of the DAO/DMO to provide IV&V services on the Kalkara Project.

The NASPO Director was a Navy Captain and the NASPO was part of ASD (Aerospace Systems Division), with the Head of Division being AVM . The NASPO was also responsible for other naval aviation projects such as SEA 1411

The ANAO (Australian National Audit Office) provides a version of the history of this project (SEA 1411) and this can be found via the following link:

<http://www.anao.gov.au/Publications/Audit-Reports/2008-2009/The-Super-Seasprite/Audit-brochure>

However, important parts of the history not included in the ANAO version follow.

Instead of accepting the DGTA recommendation, the NASPO engaged AFTS to undertake a very constrained IV&V task, specifically in relation to only one of the issues identified in the SSHA critical review; namely, to analyse flight data post following incorporation of the Contractor fix (ECP-007a) for one of the aircraft response problems.

Contract PP1209 dated 7<sup>th</sup> September 1999 refers. The attached AFTS Report No 002 was the principal outcome of this tasking.

One of the difficulties that confronted AFTS in the performance of this task was, put simply, the absence of any demonstrable understanding or technical and administrative appreciation of Airworthiness Certification, the related standards and processes, and the degree to which these needed to be applied for deriving the data, information and knowledge upon which an '*airworthiness*' determination could be based, let alone made.

As a result, in order to fulfil the contract, part of the task that fell on AFTS was to endeavour to educate its customer, specifically so the results of this work could be understood.

This approach also became vital to AFTS receiving payment for the work it had done since the absence of understanding led to the Project Manager, \_\_\_\_\_ and the Project Director, \_\_\_\_\_, withholding acceptance and, thus, payment of AFTS invoices until they had determined the results of the work and the report were acceptable.

This process took months and went well beyond the agreed schedule for this tasking.

During this unscheduled process, AFTS employed various methods and techniques to aid its customer to gain an understanding of airworthiness and the airworthiness certification environment and processes.

One of these methods was to provide examples, both general and specific, with the latter focused on other projects involving aircraft certification activities with which the individuals within the NASPO would be familiar. One of these was SEA 1411.

During discussions on SEA 1411 which was already displaying high to extreme levels of risk directly related to aircraft certification matters, both Navy Captain \_\_\_\_\_ and, in a later series of conversations, AVM \_\_\_\_\_, asked what AFTS would recommend be done to address such risks.

The advice provided can be simply summarised from the following extract from the file notes of these conversations in the latter part of 1999 and early 2000:

*"The project (SEA 1411) is to provide a sea borne helicopter with much greater capability than the standard Kaman machine. Thus, there is a lot of developmental work to be done, both in the Mission Systems but also in the Aircraft Systems, such as the digital flight controls."*

*"Developmental work brings with it considerable risks though, if able to be managed accordingly, should be addressed effectively."*

*"Importantly, this needs to be done from the outset, or set up in the project as early as practicable, in a project governance framework structured around a standard airworthiness certification architecture (Note -pointed specifically to FAR Part 29 and associated aircraft certification system standards like those for system software development e.g. RTCA/DO 178B, DoD-2167A, and the like)."*

*"Given the level of developmental work to be done and the resulting developmental risks, experience shows the project should have a T&E function resourced with the appropriate expertise to the tune of about 25% of the capital item equipment budget – could be a bit more if the assessed levels of risk are higher than the ROM estimates on which this 25% figure is based."*

*"If, for whatever reason, the Project Office or the Dept is unable to fund such a T&E function including the requisite level of IV&V, then our recommendation would be to get out of the contract now, or as soon as practicably possible."*

This same advice was provided in 2000/2001 to the Secretary of Defence, Dr Allan Hawke, and the Under Secretary of the Defence Materiel Organisation, Mr Mick Roche, in response to a personal request from Dr Hawke to provide examples where Defence could improve its processes and, more generally, the various requests for Australian Industry to come up with innovative, cost effective solutions to Australia's Defence capability needs.

Unbeknown to AFTS but not surprisingly, the same advice had been provided, circa 1997, to the NASPO through the OIC AMAFTU (Aircraft Maintenance and Flight Test Unit) by experts in Defence, including a dual qualified (Fixed and Rotary Wing) Test Pilot with extensive national and international project management experience, who had been tasked to review the Specification and Tender Documentation for the SEA 1411 Project.

Personnel in receipt of the work of these experts included now  
who is currently the Head of Helicopter Systems Division in the DMO and was the Project Manager then Project Director for the Super Sea Sprite Helicopter Project (SEA 1411) during the critical years of the project.

Clearly, given the state of affairs with the AIR 9000 and AIR 87 Helicopter Projects, the lessons have yet to be learned especially the one about not abiding by the current, entrenched attitude and resulting behaviours in Defence toward the advice

of independent experts; which, put simply, is “to ignore the message and shoot the messengers”.

Putting some flesh on the bones as to the quantum this one particular attitude and its resulting behaviours have cost the Australian people in this one defence acquisition project, completion of the following table of ROM cost estimates (-10%/+20%) for the Commonwealth resources relegated to the audit category of ‘*Fraud, Wastage and Abuse*’ under the SEA 1411 Project would be a somewhat salutary read, particularly since the total estimate would almost certainly exceed AUD\$1.8 Billion, and by some degree.

<b><i>Cost/Expenditure Element</i></b>	<b><i>ROM Estimate</i></b>
Major Capital Equipment Expenditures:	AUD\$1.4 Billion (ANAO Estimate)
Project Management Costs:	
Pre - Contract Award (1991 - 1997):	
Post Contract Award (1997 - 2008):	
Defence Attempts at Remediation, Certification and Resulting Investigation Costs:	
Costs of other Government Department Activities (e.g. Finance & Treasury, Industry, Attorney Generals)	
Costs of ANAO Performance Audit	
Deed of Settlement Costs:	
ROM Estimate Total:	> AUD\$1.8 Billion

These cost/expenditure elements do not include the costs for the activities those other two places across the lake from Russell Offices nor the costs to the Australian Defence Industry as well as the experts, both in Defence & Industry, who were ignored.

Importantly, these costs are not a complete representation of the total quantum the Super Sea Sprite debacle has cost the Commonwealth and, thus, the people of Australia. A full capability cost/benefit longitudinal analysis, by definition, should consider the opportunity costs which, in this case, would include the consequences of the self evident ongoing failures to learn the lessons.

As to why these lessons have not been learned, clearly the fatal management flaws resulting from cronyism and the Dunning Kruger Effect in Defence have been significant contributors.

Cordially,

*Peter Goon*

Peter Goon