



Submission No 23

Inquiry into Australian Defence Force Regional Air Superiority

Name: Mr James Sadler

Address: PO Box 247
Hamilton, QLD 4007

Mr. James Sadler
P O Box 247
Hamilton
Queensland
AUSTRALIA, 4007

21 March 2006

The Hon Bruce Scott MP
Chair
Joint Standing Committee on Foreign Affairs
Defence and Trade Defence Sub-Committee
Parliament House
CANBERRA ACT 2600

Subject: *Inquiry into Australian Defence Force Regional Air Superiority*

Dear Mr Scott,

Firstly, I'd like to thank yourself, and the Committee for the opportunity to make a late submission on this critical topic. I am currently working overseas and have only just become aware of your committee and its deliberations.

I have no formal expertise in this field (Air Superiority) other than a general interest in Defence and more specifically, the Defence of our Nation.

I hope my perspective and opinions on this topic add to this important debate.

Yours Sincerely,

A handwritten signature in black ink, appearing to read 'J. Sadler', with a stylized flourish at the end.

James Sadler

Ph 1: +61 (0) 400123277

INQUIRY INTO AUSTRALIAN DEFENCE FORCE REGIONAL AIR SUPERIORITY TO 2020

*A SUBMISSION BY JAMES SADLER
TO THE JOINT STANDING COMMITTEE ON FOREIGN AFFAIRS,
DEFENCE & TRADE – INQUIRY INTO AUSTRALIAN DEFENCE
FORCE REGIONAL AIR SUPERIORITY*

21 MARCH 2006

EXECUTIVE SUMMARY

This submission makes the following recommendations to Government to ensure Australia maintains Air Superiority in the Region (South Asia, South-East Asia and Oceania):

- Repeal the decision to retire the F-111 fleet in 2010.
- Upgrade the F-111 fleet to an 'Evolved' standard which should serve Australia to 2020 and beyond, if required.
- Review the support surrounding the acquisition of the F-35 JSF, and whether this is the right choice for Australia (I contend it is not).
- Obtain input and the views from those at the forefront of this topic (RAAF fast jet Pilots), outside the chain of command (anonymously if required) concerning this issue.
- Investigate the acquisition of F-22A's instead of the F-35 JSF.
- Replace the F-111 at some future date with an airframe that is as capable or exceeds the performance of the F-111 (FB-22 recommended).
- Consider new and innovative ways of funding Defence Projects (acquisitions & upgrades etc) such as the Defence Bond.

END.

SUBMISSION TO THE JOINT STANDING COMMITTEE ON FOREIGN AFFAIRS, DEFENCE & TRADE – INQUIRY INTO AUSTRALIAN DEFENCE FORCE REGIONAL AIR SUPERIORITY

1. INTRODUCTION

This submission will outline my views and opinions as a member of the public with a general interest in Defence and more specifically, the debate currently before the Committee. The author is not an expert in the field of Air Superiority, but is aware of the subject matter, and the regional threats faced by Australia. The Regional context I refer to in this submission refers to South Asia, South-East Asia and Oceania.

2. RETIREMENT OF THE F-111 FLEET IN 2010

In November 2003 the Government announced its plan to retire the F-111 fleet in 2010, rather than the originally proposed 2015 – 2020 time period. This retirement is contingent on planned and implemented upgrades to the F/A-18 fleet in order for this aircraft type to fill the capability gap left by the F-111's absence. The F/A-18 is then to remain in service until sometime between 2012 and 2015, at which point the F-35 Joint Strike Fighter (JSF) would enter service.

It is debatable whether this is a sound decision given the range and capability of the F-111 as a strike platform in comparison to both the F/A-18 and the F-35 JSF. The decision by Government to retire the F-111 early was made primarily on the advice of Defence, largely due to the cost of operating and maintaining the F-111 platform. I contend that this decision should be rescinded, as losing the F-111 represents a significant loss to Australian long-range strike capabilities. Also, to try and replace this capability with a different aircraft becomes problematic due to the increased number of support assets required (combat aircraft, air refueling tankers) to perform the same task.

Having the advantage of reading other submissions made to the Inquiry, I won't outline the arguments made in favour of this position, as you will already have them before you. Suffice to say, I support the argument to retain the F-111 fleet to 2020 and beyond, if required. More specifically, I support the idea of an evolved and upgraded F-111 fleet better able to cope with present and future air combat / air defence technology threats being developed or acquired in the Region.

2.1 An Evolved F-111 Fleet

Having read a majority of Dr. Carlo Kopp's published work on an evolved F-111 fleet, I support his ideas and conclusions regarding this subject. An evolved F-111 would have the following:

- Upgraded Avionics and Mission Computers – Glass Cockpit replacing all legacy equipment
- Super cruise ability by replacing the current engines with Pratt and Whitney F119-PW-100 engines (as used in the F-22A)
- A large, modern Phased Array Radar
- Refurbished airframe with modern components / materials where applicable
- Application of stealth technology and materials into the airframe to reduce Radar Cross Section (RCS) (Kopp, 2001).

Replacing the legacy parts that are hard to maintain and / or are rare within the F-111 with modern, more cost effective and supportable equipment is the way forward. Australia's long-range strike capability is not only maintained, but enhanced by the evolved F-111. Defence's argument concerning the F-111's high operational and maintenance cost would be irrelevant if these upgrades were implemented, as support costs and maintenance hours would be much lower than the present number. Also, with the availability of parts from mothballed USAF F-111's in Tucson Arizona's "Boneyard", the ability to maintain the fleet for another 15-20 years or beyond is achievable at a reasonable price, as parts would not have to be remanufactured. Furthermore, the maintenance and upgrading of 30 plus

year old combat aircraft is not without precedent. One need only look at the USAF program to operate, upgrade and maintain the B-52H Heavy Bomber well beyond 50 years.

2.2 Fighter Escorts

With the acquisition of modern 4th generation Russian fighters (Su-27/30's) in the Region, the evolved F-111 would still require a fighter escort to safely carry out strike missions in contested airspace. The most appropriate aircraft for this mission is the F-22A.

In a recent statement to Jane's Defence Weekly (18th January 2006), the commander of the USAF 27th Fighter Squadron, Lieutenant Colonel Jim Hecker stated after an exercise in November 2005 - "We killed 33 F-15Cs and didn't suffer a single loss, they didn't see us at all." Eight (8) F-22A Raptors from Hecker's squadron had flown during this exercise¹.

One can see from this example that the 5th generation F-22's stealth characteristics and performance vastly exceed that of advanced 4th generation combat aircraft. As the Russian Su-27 family was primarily designed to combat the American F-15, one can suspect that the F-22 will also outperform this aircraft type in aerial combat.

Although the F-35 is a stealth aircraft, it isn't in the same class as the F-22. Also, the range of the F-35 is inferior to both the F-111 and the F-22. For longer missions the F-35 would require significant tanker support.

¹ Quote sourced from - <http://en.wikipedia.org/wiki/F-22A>

3. THE FUTURE ADF COMBAT SYSTEM

Air Superiority is a component part of the ADF Combat System as outlined by the Air Marshal Shepherd's submission to the Committee dated January 6, 2006, (paragraph 32 – 34). In paragraph 32 of Air Marshal Shepherd's submission he explains that "*the current air superiority capability conforms to the White Paper requirement for maintaining air-combat capability at a level at least comparable qualitatively to any in the region.*" He goes on to explain the advantages and quantitative leap forward in capability the F-35 JSF has over the F/A-18.

The network centric model outlined by Defence is generally sound and should be pursued. However I would asked the Committee to consider, if this model were supplanted with evolved F-111's and F-22's instead of the F-35 JSF in the air combat role, wouldn't this be an even more robust model, more effectively protecting Australia and its citizens against any possible aggressor into the foreseeable future? I also would like to comment on the White Paper requirement of "*maintaining air-combat capability at a level at least comparable qualitatively to any in the region*" outlined by Air Marshal Shepherd. The context in which this line was used referred to the present force structure. I would like amend this standard by inserting "*superior*" in place of "*at a level at least comparable qualitatively.*" Maintaining an air combat capability superior to any in the region should be Australia's present and future air combat model.

I am not comfortable with a force structure, especially moving forward to 2020, that maybe "*at least comparable*" to those in the Region. I support an ADF force structure that is vastly superior to any in the Region, one that will secure our safety as a Nation, and deter potential aggressors. Parity with other Regional combat air assets is **NOT** good enough. In my opinion the F-35 JSF does not deliver such superiority, especially when head to head with the Su-27/30 family or other advanced 4th generation combat aircraft in the within visual range (WVR) battlespace.

3.1 **Input from RAAF fast jet Pilots**

I would also recommend the Committee seek the opinion of those at the forefront of the topic. That is, Australians who are principally affected by these deliberations, especially if they are asked to go into battle and risk their lives for our nation. It is imperative that they have some input into the debate. Additionally, their outlook on the future force structure, and air combat aircraft types they would like to fight with in the future would be particularly insightful. Furthermore, this advice should be sort without the oversight of the Defence hierarchy. Defence Force members should be able to express their views, anonymously if necessary.

3.2 **Replacement of the F-111**

There will be a time that the F-111 will be withdrawn from service; I contend that it is being withdrawn prematurely. I further contend that if Australia is to replace this aircraft type and capability, it should be replaced with either an aircraft type of equal or greater capability. Australia should not be replacing it with an aircraft type that is less capable.

The only western airframe currently capable of filling a similar role to the F-111 is the F-22A, although its combat radius is less. The FB-22, a future aircraft type that looks promising would be ideal as the future replacement for the F-111. This aircraft is a derivative of the F-22A and is currently an on-paper concept.

4. **FUNDING**

The system of Government for funding large and costly Projects such as those associated with Defence is certainly not an area in which I have expertise (except in paying taxes). The idea I propose may seem radical in terms of Government, especially procedurally, but I think it has some merit so I will endeavor to outline it

to the Committee. This is a very simplistic model, and obviously more study would be required in any implementation and qualification process.

4.1 The Defence Bond

The idea is to invite business to provide a certain amount of capital in the form of a ‘Defence Bond’. The result is business pays the Bond (A, B, C, D, E) up front in a specific financial year, and the pay off for Government is they get immediate access to the funds for Defence procurement, thereby reducing the burden on the average tax payer. The pay-off for business is that after the payment and issuing of the Bond, their return on investment, or the return from the taxpayers of Australia, is a reduced company tax rate for a specified period of time. **Table 1** broadly outlines the concept.

Table 1 – An overview of the Defence Bond Concept

DEFENCE BOND CONCEPT				
Bond Type	Amount of the Bond (millions)	Time Period	Reduction in Company Tax rate guaranteed by the Bond	New Company Tax Rate for the period of the Bond*
A	\$250	5 years	50%	15%
B	\$500	7 years	60%	12%
C	\$1000	10 years	70%	9%
D	\$2000	15 years	85%	4.5%
E	\$5000	30 years	100%	0 %

* Assuming the current company tax rate of 30%. The prevailing company tax rate of the day would affect the rate at which tax is paid, except in the case of Type E Bonds.

The amount of Bonds issued, their monetary value and type, would be determined by the Government of the Day. Also, those businesses able to obtain the Bonds have the benefit of operating from a stable, well-governed and well-defended democracy (that they have contributed to) and should become extremely competitive on the world stage, with added benefit to the Australian economy and

employment. So long as business is attracted to this concept, I see it as a win-win situation for all stakeholders (business, Government and the average tax payer).

It is certainly an idea outside the box, but I think it is achievable. At the very least it warrants public debate on the matter.

5. CONCLUSION

In summary, this submission argues that in order for Australia to maintain Air Superiority in the Region (South Asia, South-East Asia and Oceania), the following recommendations should be employed by Government:

- Repeal the decision to retire the F-111 fleet in 2010.
- Upgrade the F-111 fleet to an 'Evolved' standard which should serve Australia to 2020 and beyond, if required.
- Review the support surrounding the acquisition of the F-35 JSF and whether this is the right choice for Australia (I contend it is not).
- Obtain input and the views from those at the forefront of this topic (RAAF fast jet Pilots), outside the chain of command (anonymously if required) concerning this issue.
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- Consider new and innovative ways of funding Defence Projects (acquisitions & upgrades etc) such as the Defence Bond.

END SUBMISSION.

REFERENCES

Kopp, Carlo Dr. (Australian Airpower), 2001. *Pigs Forever*. Australian Aviation, July – October 2001. Phantom Media Pty Ltd, ACT Australia. Also online at - <http://www.ausairpower.net/TE-F-111-Supercruise-2001.html>

Shepherd, G. 2006. Chief of the Air Force. *Royal Australian Air Force Air Combat Capability Paper for Joint Standing Committee on Foreign Affairs, Defence and Trade – A Review of the ADF's ability to maintain Air Superiority in our Region to 2020*. Submission No. 15 to the Joint Standing Committee on Foreign Affairs, Defence and Trade – Inquiry into Australian Defence Force Regional Air Superiority.