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Foreign Affairs, Defence and Trade Committee.  
Joint Strike Fighter Inquiry,  
Dept. of Senate  
P.O.Box 6100  
Parliament House, Canberra, ACT 2600.

My submission is from an amateur perspective , but from one who has closely followed the debate on the suitability of the F-35 for the RAAF since the beginning and would appreciate if the committee would consider these remarks.

I was alerted to what I consider its inadequate performance for the RAAF as it's new fighter by Lockheed Martin's original marketing web site which described the JSF as designed to be a replacement for the A7, F16, F/A 18, A10, AV-8 Harrier ( Note- as opposed to a replacement for the F15, Typhoon, Rafale and other tier one fighters)

It was promoted as a 'battlefield interdiction' fighter/bomber(multi-role) with partial stealth and very low cost; able to be purchased in high volume thus outnumbering opponents, with advanced sensors and using new production techniques to enable this high volume and low cost , and in addition be available in 3 variants. The publicity also stated the JSF would have the performance parameters of an F16, then the frontline fighter for many air forces as well as the USAF.

In other words the JSF was never designed to be an 'Air Dominance' fighter which I believe the RAAF and other allies need, then and more so now! My argument is supported by the evidence that no major air force, including the USAF, RAF, German, French, Israel and other nations, are ordering the JSF to replace their existing Tier One fighters. The U.S. Air force were in the fortunate position in having the superb, extremely advanced F-22 Raptor as it's air dominance fighter. Europe also having the less capable but effective Typhoon in development as its air dominance fighter.

We now know the JSF does not have the performance of the F16, is not a low cost unit and therefore is unlikely to be bought in the volume assumed, necessary to achieve its intended results. It is so far behind its original schedule that China and Russia appear to have largely caught up or will do so by the time the JSF is fully operational.

The main deficiencies, inherit in the design that cannot be modified, compared to likely adversaries such as the Sukhoi Su35-S and developmental Chinese and Russian stealth fighters, are:

- lower ceiling.
- shorter range.
- lower speed.
- smaller radar.

- no supersonic cruising.
- less manoeuvrable.
- single engine.

To ensure that I was balancing my views, and not just siding with the many highly qualified critics of the JSF selection and to thus avoid 'group think' ( an undesirable quality often displayed by Defence and the RAAF) I participated in a one to one interview with a Lockheed Martin executive, at their invitation.

The main points conveyed by him were:

1. JSF more stealthy than you think.
2. Unique data fusion giving superior situational awareness.  
(But details classified.)
3. Clean profile making up for performance( Sukhoi burdened by external stores.) In any case, dogfighting days are over!
4. We know how long it took us to develop our stealth technology so we are not concerned by claims the 'fifth generation ' Sukhoi Pak-FA T50 or the Chinese J-20 and J-31 now flying, are really stealthy. We reject any suggestion of hacking of our design dept computer(.....sure hope he's right!)
5. All of the latest 'available' aircraft are used in the simulations.
6. So many governments would not be ordering the JSF if they shared these concerns.
7. Lockheed Martin are already working on a replacement F-22 Raptor.
8. RAAF always buy a multi role aircraft as the number one 'order of battle' rather than a pure fighter.

On this last point I observe all fighters today carry optional air to ground attack weapons, missiles bombs etc so all are really fighter/bombers. However, some have air superiority as their designed primary role, whereas the JSF was designed from the opposite perspective; and thus would be great running around a Middle East battlefield taking out tanks, control centres and AA sites etc, but not so good in defending an attack by a Sukhoi PAK-FA arriving from very high altitude, at supersonic cruise speed, or even the current Sukhoi Su-35S, without even equal performance parameters. Being 'aware' you have a Sukhoi closing on your tail doesn't help if you can't outrun it, out climb it, out turn it or outshoot it....!

Stealth is stealth only from X-band radars, not L-band nor infra red sensors and only with the frontal area of the JSF. Thus the more accurate reference of 'low visibility' This feature must be kept in its true perspective. Only the F-22 Raptor has all aspect stealth.

The point is that right now the JSF-F35A is still years away from incorporating all its planned design features. The Block 3 software to provide the supposed secret advantage is estimated at 3 years behind, encountering complex software design limitations. Indeed will the solutions ever be found? The unit cost has blown out by more than double. It currently can't prove its supposed advantage despite its unique features even against the old F-16 let alone the latest version of the F-15.

We are on dangerous ground with this aircraft. Despite all the positive talk by Lockheed Martin there is no sign that the USAF is so thrilled with the JSF they will phase out their old F-15s, F-16s or even the F-22....not even a hint. Nor from any other country. On the contrary top U.S. commanders have stated categorically the JSF cannot be sustained without the F-22.

The situation only gets worse as the Chinese, with amazing speed, develop their stealth group of aircraft and Russia also develops and exports Sukhoi PAK-FA. Both big powerful advanced air dominance fighters. And, let's be honest, where is a major conflict likely to break out?.....Asia, started by an ambitious and aggressive Chinese Govt. All the signs are there.

What should the committee recommend?

1. That the Government delay, postpone or cancel any further acquisitions of the F-35A (no more than the two already delivered) until the software block three is actually proven. That is, proven in reality in the air against the latest versions of the current air superiority fighters ( F-15S, Typhoons. Raptor etc)

2. We would rely in the meantime on the F-18 F and G Super Hornets, stretch out the F/A -18 Hornets' life where possible. These can significantly contribute over the next say 5 years. ( what a pity the F-111 was prematurely scraped; it would have been, with appropriate updates, a highly lethal very long range maritime strike aircraft)

So there is a window of opportunity if we act quickly.

3. Persuade the USA to reopen the F-22 production line but incorporating the improvements and techniques learned with the JSF program so far. The rationale is that the F-22 basic platform does have the air dominance performance features necessary. It may then be produced with configuration variations to suit customer requirements. The volume required would surely mean a comparable unit cost with the F-35 as is now known. Work with selected allies. Really push the US to move rapidly in this direction. They must now know the reality and the looming and ugly threat from the Chinese in particular, and should not under-rate their potential.

RAAF then acquire these F-22Plus as their Tier One Air Dominance fighter.

4. Later consider the suitability of a proven F-35JSF perhaps in its intended original role.

Should the committee find that they must recommend to the government that a superior aircraft is essential to Australia's and the S.E.Asia region's security, and

to counter a growing threat from China, and provide the deterrence factor, that the JSF is not the entire answer, then the very great challenge the government would face is how to carry out this course of action without stating publicly that the JSF is not what they, the RAAF and Defence have been telling us for the last 10 years! There will be a lot of egg on a lot of faces! Furthermore such action will embarrass the US and the Pentagon.

Therefore the committee report must remain confidential but should recommend behind the scenes diplomacy with the hierarchy of the US defence administration so a suitable announcement is made of the availability of a new F-22 plus which will help selected allies further improve their defence capability. The Australian Govt could then “jump on this new bandwagon”, without having to acknowledge the JSF a failure.

Of course there is the possibility the US may disagree and purposefully not make any F-22Plus available. After all egos will be hammered. However, it would seem peculiar, to say the least, to argue that the F-22Plus is soo good and soo secret that the USA wont sell it to its closest friends, and at the same time not supply it to its own air force!! A logic beyond my comprehension!

If however, the committee report endorses the JSF programme would it please set out to convince its critics point by point in that report; the RAAF, Defence, and Lockheed Martin having failed to do so.

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