

# Fixing Defence's most

# expensive mis-step

Robert Marlow

The Rudd Government has a rather delicate political and Defence-oversight issue to resolve. The cost of replacing our F-18A/B and F-111 aircraft is massively over-budget, some \$A7.6bn so far but with further increases anticipated. At present, the new Government can shift the blame to the previous government's acquiescence with Department of Defence advice to acquire the unproven F-35 Lightning II Joint Strike Fighter (JSF) and to retire our F-111 force prematurely. However, in now undertaking a 'Review of Australia's Air Combat Capability' the new Government will take over responsibility for fixing this largest ever Defence procurement calamity.

The Department's Review team members may be inclined to stay with the status quo. The composition of the review's steering group will no doubt encourage this. In many respects it is almost expecting too much for some of the people involved, having been deeply implicated in the original unfortunate JSF and F-111 decisions, to change their minds suddenly as significant personal honor and professional pride is at stake. Moreover, in common with all bureaucracies, the Department of Defence has a natural tendency not to be self-critical. However, the Rudd government has an incentive to get it right, both for Australia and itself, for at best the first JSF will not arrive until 2014 — after two more elections. In that regard, those interested in avoiding a repeat of this unprecedented procurement crisis should read the award-winning article *Buying Paper Planes* by Cameron Stewart in *The Australian* of 26 October 2002.

What options are there? The crux of the matter is the factors the Government wishes to emphasise. Does it wish to save money for higher priority tasks? Does it wish to have the highest cost program? Does it wish to have the most capable air combat capability in the region? Does it wish to get the best deal for Australia as a nation? In examining these alternatives the considerations that may influence the Government can be more readily appreciated.

## The low-cost option

The F-18F Super Hornet, as part of a wider air combat system, gives an operational capability at least comparable to the JSF over the medium term, but is already in squadron service with the USN and can be bought off-the-shelf quickly and efficiently. After further development though, the JSF will become operationally superior to the Super Hornet beyond 2023. The present Super Hornet contract includes buying the necessary aircraft support and sustainment infrastructure, thus allowing any extra funds to be mainly used for buying more aircraft. An expanded Super Hornet option is the lowest cost one by virtue of money already having been spent.

The combination of a very limited air defence threat to Australia, and the significant air defence improvements gained in acquiring the Jindalee Over-the-Horizon radar, the Wedgetail early warning aircraft, new ground-based radars, advanced air-refueling tankers, and the AEGIS-equipped air warfare destroyers, suggest that fewer air defence fighters may be needed than in the 1980s.

By comparison with the period when the 75 F-18A/B Hornets were first purchased (1985-90), fighter aircraft can now be more precisely directed, low-altitude attackers can be detected at long range allowing interception using ground alert fighters, and naval ships at sea can be largely self-defending or protected by air-refueled fighters. These expensive improvements mean that fewer fighter aircraft can now be more effective than the larger numbers of earlier times could be, otherwise the overall air defence capability improvements would not have made sense to acquire. Network-centric warfare does mean more can be done with less just as the RAAF has consistently argued. This is probably doubly fortunate as perennial pilot shortages mean that buying aircraft is actually easier than crewing them.

The combination of these factors suggest a total of 48 Super Hornets would be sufficient for both the unlikely case of air defence of Australia, and for making the rare commitment, such as the 2003 Iraq war, to American-led coalition operations. However, while the Super Hornets are

well-equipped for maritime strike this proposal does not really address long-range strike. A simple capability could be achieved by fitting long-range missiles onto the Super Hornet, either the 200-mile range JASSM presently being acquired for the F-18s or longer range alternatives from the US or Europe. This capability though would be meagre and should not be considered as completely replacing the F-111 capability, but it would be affordable.

The additional 24 Super Hornets would probably cost some \$A2.9bn extra with long-range missiles adding \$A0.6bn. However, the current F-18A/Bs would not need the \$A1bn plus structural refurbishment program, and the planned \$A15bn plus JSF acquisition would be avoided. The \$A3.5bn additional cost of the extra Super Hornets is offset by the \$A16bn saving allowing some \$A12.5bn to be made available for other high priority projects across the ADF.

## The high-cost option

The F-35 Lightning II JSF remains very much a developmental program with significant risks, as revealed by recent problems with the engine and the four-year slippage in the first flight of the variant the RAAF is interested in purchasing. Lockheed Martin believes that the latest developmental timetable could allow deliveries around 2014 although there are no contractual cost penalties for Lockheed Martin if this does not occur. The most recent aircraft the RAAF acquired from the company, the C-130J, was several years late and took much longer to become operational than the company advised. The Department of Defence plans to commit to the JSF at the most expensive and risky part of its developmental cycle, before any production aircraft have flown and several years before it enters service with the USAF.

In some respects a good deal of this criticism of the JSF is unfair. The aircraft is early in its development and naturally much remains uncertain. The JSF will not reach a similar level of maturity as other alternatives until about 2020. It is just that Australia needs a new air combat aircraft in 2010 — as the 2000 Defence White Paper stated and the 2007 Super Hornet bridging capability purchase demonstrates.

For the JSF to be proven and available with a firm delivery schedule and an affordable cost, Australia should wait until about 2020 to place the first orders. In this regard some alternatives suggest themselves: keep the Super Hornets and the F-111, retire the structurally fatigued F-18A/B fleet, and delay any JSF purchase until the aircraft is low risk and offers clear operational benefits over the Super Hornet.

The stated justification for the JSF selection was its touted unique stealth characteristics, although it now seems from departmental statements the Super Hornet is also somewhat stealthy, suggesting other options may be as well. The JSF is less manoeuvrable than other alternatives and has similar electronic systems to them, making the JSF's stealth key to the aircraft remaining operationally viable. The aircraft's operational life thus depends on no counter-stealth technology being fielded over the next 25 years or so.

As a technology, stealth was originally developed in the 1970s, with the first stealth aircraft shot down being achieved

by a relatively unsophisticated Serbian air defence system in the late 1990s. The JSF in relying so much on an ageing technology has a risk of becoming prematurely obsolete. This is not a major issue for the US or for NATO's JSF partner countries who envisage operating in large mixed aircraft-type packages. But it is an issue for Australia contemplating a self-reliant combat force possibly operating alone. Indeed, the explanation for the Serbians shooting down the F-117 stealth fighter was that the aircraft was operating unsupported and alone.

The Department of Defence's project team is closely watching Lockheed Martin develop the JSF, but has no fixed contractual benchmarks against which to judge acceptance. The JSF was chosen by the Department of Defence at ministerial direction before the operational requirements for a new air combat aircraft were determined so the JSF does not need to meet any firm needs. The needs can be adjusted as the JSF evolves to conform to whatever the JSF offers at the time. The RAAF will simply take what it gets, rather than receive what Australia may require.

The current ADF plan envisages a costly F-18A/B structural refurbishment, purchasing 100 JSF aircraft and retiring the Super Hornet aircraft. It is unlikely the US would buy these Super Hornets back after a decade or so of RAAF use, and even if it did their residual value would be small. The overall plan will cost some \$A23.6bn, although with a strong likelihood of cost increases as the F-18A/B structural refurbishment and the JSF program remain problematic.

## The most capable regional air combat capability option

The dominant fighter aircraft of this era, regardless of any stealth longevity concerns, is the high performance F-22 Raptor. Such a capability would give Australia the regional military edge for the next 20 years and possibly beyond, just as the earlier-generation purchase of the F-111 did. The aircraft is expensive, although how much more expensive than early-built JSFs is unclear. The JSF enthusiasts quote the half-way-through-production costs of around 2023, not the price for early production aircraft ordered in 2010. Purchasing some 40 F-22 aircraft seems a reasonable compromise between cost and requirements for as noted earlier the air threat to Australia is minimal, the RAAF's air defence system has been greatly enhanced, and such numbers would allow a limited commitment to a coalition operation overseas.

The F-22 is a special case though. With it, Australia really does become a top-end alliance partner in fact; not an ally simply capable of providing limited numbers of additional troops or second-tier aircraft only. In a qualitative sense Australia's value to the US, and the Western Alliance more generally, increases dramatically, giving the Australian Government of the day significantly more strategic influence. Moreover, the F-22 is a mythic aircraft in that its quality makes any likely adversary unwilling to fight for air superiority. In that sense the F-22 dominates air combat; it deters others from engaging in air combat because it

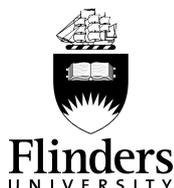
out-classes all alternatives. Moreover, the F-22 makes the absolute most of the limited number of fighter pilots Australia has; it plays the qualitative game to perfection.

The counter is that the F-22 is primarily a fighter not a bomber although it does carry many of the same strike weapons the JSF will, such as GPS-guided bombs. This matter could be addressed by retaining the F-111 as a stand-off missile launcher rather than as a penetrating bomber. Indeed having been fitted with the Harpoon anti-ship missile and the AGM-142 the F-111 is partially there already. In launching long-range missiles, like the 200-mile range JASSM mentioned earlier, the F-111 could operate well outside hostile air defences. With this approach, the large payload carrying F-111 would perform as the USAF plans to operate the even older B-52 and not much younger B-1 bombers well into the future. If needed, the Super Hornet could be a less-capable fallback albeit recognising that the F-111 would provide a much superior high-end regional capability.

A 1997 US Defense budget amendment proposed by Congressman David Obey, now the Democratic Party chairman of the House Appropriations Committee, prevents the sale of the F-22 to foreign governments. Much has changed in the intervening decade with greater American recognition of the value of allies — and that an Australian acquisition would be good for local jobs in a US economy entering recession. The US administration, the USAF and the Senate have not publicly expressed any doubts over

allowing Australia to purchase the F-22. Indeed at the recent AUSMIN talks US Defense Secretary Bob Gates stated that Australia can be trusted with the aircraft and there are no Administration concerns. The Rudd Government's timely decision to request advice on this amendment will allow a gauge to be taken of the American commitment to support key allies and allow these Allies to better share future defence burdens.

Being the regional air combat leader will not be low cost. An F-22 program of 40 aircraft may cost some \$A10.3bn. Adding long-range strike capability to the F-111 and sustaining this capability past 2010 may cost some \$A1bn to start with. It may be possible to offset these costs if the US agrees to buy back the contracted Super Hornets. There are some near-term incentives for the US to do this, especially if a decision is made before our aircraft are delivered. If the US will not refund the Super Hornet cost, it may be preferable to replace the F-111s with the Super Hornets and accept the long-range strike reduction — a move that would disadvantage the US and Australia in an operational sense of burden sharing and in keeping the ADF a top-end allied military force. Under this proposal, the F-18A/B structural rework would be unnecessary. The total cost would vary from \$A11.3bn if the Super Hornets could be resold and the F-111 retained, to \$A16.9bn if they were not.



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## The best deal for Australia option

The JSF purchase has been constructed so far without the competitive pressure of a traditional tendering process. There is no doubt that if there was a fair and open competition Lockheed Martin would strive to offer a better deal in terms of capability offered, price charged and delivery timetable. Moreover, with a tendering process a contract could be negotiated that actually specified these key areas rather than continuing to rely on an open-ended non-binding agreement. Australia originally bought the F-18A/Bs through a tendered contract, and this proved highly advantageous when structural problems arose after delivery as the rectification was covered by the contractual warranty. The JSF buy offers no such buyer protection; a matter of real concern as the aircraft will be in a less developed state than when the F-18A/B fleet was procured.

Moreover, the \$A15bn JSF deal is offering very little Australian industry participation with Lockheed Martin instead striving to maximise American contracts. The third-tier JSF partner nations, such as Australia, have to compete for less than one percent of the overall program. The earlier F-18A/B purchase bought new high technology into Australia, for example the capability to produce composite structures was created. This industry now employs several hundred people, exports 95 per cent of its products, has a turnover of more than \$A300m annually and is steadily expanding.

Unlike earlier Department of Defence purchases the massive JSF expenditure will not support a secondary goal of building a better Australia. The less costly Collins Class Submarine project by comparison bought new skills, expertise and capabilities to Australian industry and the nation as a whole. In such a nation-building sense, the JSF program offers almost nothing. This was not true for the other aircraft alternatives originally proposed where the companies saw a competitive advantage in being able to offer technology transfer and industry development to Australia. A competition would act as an inducement for Lockheed Martin to try harder.

Similarly, as discussed in several recent *Defender* articles and letters, the early run-down of the F-111 capability is having ruinous effects on the ability of Australian industry to support the RAAF (and future development projects) independently.

There may be a perception that returning to a proper competition now would harm the US alliance. However other smaller JSF partner nations within NATO have retained a competitive approach with no difficulties. Moreover, Australia has just purchased the Super Hornet and C-17 aircraft at a combined cost of some \$A9bn; Australia has put real money into the alliance. Moreover, as the history of the recent tightly-fought air refueling competition in the US illustrates, competent governments use the tender process to get the best deal and overcome personal biases. Lastly, the Bush administration is naturally pro-Texas, the state where Australia's JSFs will be manufactured; Secretary of Defense Gates is understandably less enthusiastic about other alternatives. However, with no US Presidential candidates

from Texas such concerns and influences will wane towards the end of 2008.

Having a fair and open competition would get the best deal from a national perspective. The decision on the aircraft type could also be made on fact-based grounds rather than ideological or personality-based ones. These latter methodologies have proven problematic as revealed by the Department of Defence's inability to present a sufficiently compelling justification of the JSF decision to quell the growing concerns of the public, the media and the new Government.

This is again quite at variance with the F-18A/B purchase where the rigorous and transparent selection process negated such disagreements. The mere fact the JSF decision remains contested and a major review is necessary, some six years after the decision, seemingly demonstrates there is no strongly convincing argument. The Department has attempted to argue that the true reasons are classified and cannot be discussed. However, given the planned JSF purchase will cost every taxpayer more than \$A2000 each this approach appears less than satisfactory. Claiming secrecy is of course a normal marketing device intended to prevent debate and, even better for the company claiming them, the 'secrets' cannot be made contractually binding. Such are the marketing advantages of this ploy that every country selling a product lays claim to special secrets.

## Summing Up

These are the issues that the Rudd Government will face and the responsibilities it will accept. The broad air combat alternatives discussed here include a low-cost option of some \$A3.5bn, the best regional capability for \$A11.3bn-\$A16.9bn (depending on circumstances), and continuing with the Department of Defence's plan for \$A23.6bn.

Regardless of which alternative is preferred, it is difficult to argue against a fact-based, competitive and transparent approach, that gets the best deal for Australia and which disarms public opposition rather than feeds it. Such an approach would resolve the increasingly vituperative and unhelpful exchanges between the Department of Defence and their critics over the air combat stumble. Worryingly, in the absence of a compelling rationale, these critics are increasingly including many retired and serving RAAF officers, as the recent ABC Four Corners programme *Flying Blind* revealed. However, the supporters of the JSF should have no fears. If the aircraft is as good as they maintain, a fair and open competition will publicly demonstrate this in a convincing and compelling way to all concerned, as well as getting Australia the best deal.

Getting a solution to the air combat problem as widely accepted and as cost-effective as the purchase of the previous fighter, the F-18A/B, may however be difficult for the new Government to realise. Instead, the government may find itself paddling upstream against a bureaucracy more content to stay the course, even as the situation steadily worsens. Change is always hard, even for the Department of Defence's 'mandarins'. ♦

*Robert Marlow is a nom de plume.*