

A FORCE TO BE RECKONED WITH



A MAJOR MILITARY PURCHASE AIMS TO KEEP AUSTRALIA'S AIR FORCE READY TO MEET OUR FUTURE DEFENCE CHALLENGES.

STORY:
ANDREW DAWSON

*F-35 Joint Strike Fighter.
Photo: Lockheed Martin*

Not to have an adequate air force in the present state of the world is to compromise the foundations of national freedom and independence.”

Those words, spoken by Winston Churchill in the lead up to the Second World War, still have resonance today as the Australian Defence Force gets ready for one of its most expensive military purchases ever.

Faced with the job of replacing Australia's ageing bombers and jet fighters, the \$16 billion dollar question for Defence is whether the preferred replacement aircraft will, to paraphrase Churchill, provide us with an adequate air force.

That's the cost for purchasing 100 of the new F-35 Joint Strike Fighters (or JSF), each of which comes with a US\$45 million price tag. For that our defence force will get

a radar-evading stealth aircraft that has been touted as the most electronically sophisticated plane ever made.

A lot is riding on the anticipated arrival of the JSF by 2014. Will it adequately replace Australia's 26 long-serving F-111 bombers and 71 F/A-18 Hornet jet fighters that have been the pride of our air wing for the past three decades?

With a country as vast as Australia, our air force needs a fully-armed JSF to be capable of covering more than 600 nautical miles without refuelling. Air-to-air refuelling capacity will extend this range.

The exact capability of the stealth fighter remains something of a mystery. Its maker, Lockheed Martin, is still refining the current JSF prototype to meet the military standards required to begin rolling the aircraft off its production lines.

Already there has been some speculation about the possibility of a cost blow-out beyond \$US60 million for each joint strike fighter. If that were to occur, then Australia may have to rethink the number of aircraft it is ordering, with obvious strategic consequences.

Also relevant are the Pentagon's own plans to bolster United States air power by ordering 2,500 of the joint strike fighters. If there is a budget blow-out of the massive \$256 billion project, then the US military may cut costs by ordering fewer fighters, and as a consequence Australia may be forced to accept a price hike and less aircraft.

Given the strategic and financial magnitude of the upcoming JSF purchase, of interest will be the deliberations of a parliamentary committee that is investigating the ability of the Australian Defence Force to maintain air superiority in the region to 2020, given current planning.

This new inquiry by the Joint Foreign Affairs, Defence and Trade Committee follows on from earlier committee investigations that examined:

- the early retirement plans for the F-111 from 2010;
- the development of Australia's airborne early warning and control capability (AEW&C) by 2007;
- providing air-to-air refuelling for jet fighters by 2009;
- the F/A-18 Hornet upgrade;
- buying Global Hawk unmanned aerial vehicles; and
- arming F/A-18s and propeller-driven Orion AP-3Cs with long-range strike missiles.

The committee previously expressed concern, in its 2004 report *Australia's Maritime Strategy*, about Defence's transition strategy for replacing the F/A-18 and F-111, owing to the very real possibility that there may be delays in the delivery of more than 50 joint strike fighters.

Fundamental to any question of regional air superiority will be a need to examine the projected air-combat and strike capability of Australia's nearest neighbours—Indonesia,

Singapore and Malaysia—alongside the regional superpowers of China and India.

When F/A-18 Hornets were first introduced to the Australian Air Force in the 1980s, they were the most capable fighter aircraft in the region. However the committee was told in 2003 that this was no longer the case, with neighbouring countries acquiring more capable fighter aircraft such as the Russian-made Sukhoi Su27s and Su30s. These advanced strike fighters have a large combat radius and excellent radar, which makes them a formidable foe.

Defence maintains that, with the full introduction of the joint strike fighter, Australia can enjoy air superiority in the region.

There also remains a growing concern about the proliferation of Russian supersonic and subsonic air, submarine and ship launched cruise missiles and launch platforms (such as Tu142M Bear and Tu22M3 Backfire bombers), which translate into significant power projection weapons. Both India and China have cruise missile capability and these missiles can potentially pose a significant threat to, for example, Australia's northwest gas fields.

Defence maintains that, with the full introduction of the joint strike fighter, Australia can enjoy air superiority in the region because this latest generation jet fighter will have stealth capabilities, advanced sensors and effective missile combat capabilities.

In 2002 then Defence Minister Senator Robert Hill highlighted Australia's need for a new frontline combat aircraft when he announced that Australia would become a \$150 million partner in the system design and development phase of the joint strike fighter project. Senator Hill conceded Australia's jet fighter options are limited.

"Well if we want to go to the next generation of aircraft, this is really the only one," he said. "This is the only

one within a reasonable budget, and probably the only one that would be available in any event, so it is very important to us, and we are not looking at any other alternative ... but the budget we originally announced for up to 100 aircraft is still, on my advice, the envelope within which we can deliver the program."

The minister dismissed comparisons between the JSF and the bigger, more expensive twin-engine F/A-22 Raptor, due to initial cost estimates that price each F/A-22 at a staggering \$US153 million. "Well, forget the F-22, (a) we could never afford it, and (b) it might never be available," Senator Hill said.

"In relation to combat radius, you have got to look at the aircraft together with the new in-air refuelling capability that we are getting and you have then got to compare that with the alternatives.

"One of the advantages of the JSF is really its flexibility, the fact that it can go into the battle early on in a stealth configuration and take out the radars supporting ground based weapons which could be such a threat to a non-stealth alternative, and then go back later on carrying a heavy load of bombs in a different configuration."

The new Chief of the Defence Force, Air Chief Marshal Angus Houston has long been a strong supporter of acquiring the F-35 JSF. He welcomes Australia's air combat capability being on the threshold of a new era as the F-111 and F/A-18 near the end of their service lives.

Air Chief Marshal Houston told *Air Force News* in 2004 that many questions had already been asked of the F-35's potential capability. "Our advice to government to move to a more modern fifth-generation aircraft reflected our view that the fourth-generation aircraft (F/A-22) would not meet our needs, nor be good value for money," he said. "For Australia to sustain a decisive combat edge in the air over coming decades, we need to move to the more advanced capabilities of a fifth-generation aircraft over the next decade."

He also defended the projected cost of each joint strike fighter. "Earlier aircraft will be more

Continued page 36 ►



expensive and there will be additional costs for any additional equipment or Australian unique modifications. The JSF nonetheless remains cheaper than most of the original contenders for the Air 6000 project.

“It is reasonable to estimate that the budget currently earmarked for a 100 aircraft JSF program probably would support an F/A-22 acquisition of only about 30 aircraft. A force of 30 aircraft is clearly inadequate.”

According to Air Chief Marshal Houston, a minimum of 100 joint strike fighters is needed to defend Australia. “Four squadrons look like being the minimum prudent operational force to meet potential concurrency requirements,” he said. “With four deployed squadrons of even 14 aircraft, backed up by a squadron-sized rotation capability, the total number is already up to 70 aircraft.

“To this must be added aircraft for training—possibly 10 to 18—plus a pool of aircraft undergoing deeper maintenance or regular upgrades, and additional aircraft to allow for expected attrition over the life of the fleet. The number quickly gets up to 100.”

Air Chief Marshal Houston insisted the choice of jet fighter was clear. “The JSF is the more cost-

Above: The F/A-18 Hornet is nearing the end of its service life. Photo: Department of Defence; Below: Committee hearing with (left to right) Defence Department Secretary Ric Smith, then Defence Minister Robert Hill and Chief of the Defence Force Angus Houston. Photo: Ray Strange, Newspix



effective option for us, even though the F/A-22 might do important parts of that job better," he said. "Of course, the final performance of the JSF is far from being proven and there are a number of key risks still to be managed in the project. But the track record of the US military and the US aerospace industry in delivering on projects like this is very good."

However defence analyst Carlo Kopp, who has made previous submissions to parliamentary inquiries on air defence, questions whether the joint strike fighter is exactly what the Australian Defence Force needs. Mr Kopp believes the JSF's capacity as a bomber does not compare well with both the longer-range or heavier bomb capacity of the bigger F-111 aircraft. While the demonstrator model of the JSF exceeded its combat radius requirement of 600-plus nautical miles, Mr Kopp is sceptical about whether that range would be achievable when the JSF is fully loaded with missiles and bombs.

He says claims the joint strike fighter are in the class of the F-111s are "scarcely credible". "The only decisive system level advantage the joint strike fighter has against the F-111 is its use of second generation stealth technology," Mr Kopp says.

But Air Chief Marshal Houston willingly defends the JSF's shorter range against that of the F-111. "No one today is making an aircraft that has the same radius of action on internal fuel as the F-111 in the strike role," he says. "For the future, therefore, we are going to have to adapt to a lesser range platform supported by air-to-air refuelling and, in some cases, stand-off weaponry to provide range extension."

A minimum of 100 joint strike fighters is needed to defend Australia.

Mr Kopp cautions that all of these analytical arguments are essentially contingent upon the JSF meeting its final design performance and cost targets. "Indeed, if we pretend that the People's Republic of China doesn't exist and India's strategic competition with China in the region doesn't concern us, and that cruise missiles are not the hottest selling item across the wider region, then the F-35 becomes an attractive proposition—a cheap to buy, cheap to run, stealthy hi-tech fighter which is an incremental improvement over the RAAF's somewhat anaemic F/A-18A Hornet," Mr Kopp says.

"As a bomb truck, disregarding stealth performance, the F-35 falls into the gap between the F/A-18A and F-111. As an air combat fighter, it will offer modest performance gains over the F/A-18A Hornet Up Grade and the advantage of stealth."

Mr Kopp believes the cumulative total of orders for Sukhoi Su-27/30 long-range bombers in Asia remains around the 500 aircraft mark. This represents an environment where the JSF's 600 nautical mile class subsonic combat radius is not a decisive strategic advantage against the Sukhoi's similar or better radius performance.

He questions whether the JSF will be ideally suited to the unique Australian environment, where combat range and air superiority will be vital for a small air force defending such a large country as Australia.

This will remain an issue for debate in the years leading up to the acquisition of the new JSF, and the parliamentary committee's investigation will be watched with interest to see how much the committee delves into such matters. ■

For more information on the inquiry into regional air superiority visit www.aph.gov.au/house/committee/jfadt/advair or email jscfadt@aph.gov.au or phone (02) 6277 2313.

REGIONAL AIR FORCE STRIKE POWER



F-35 Joint Strike Fighter. Photo: Lockheed Martin

INDIA: by 2014, the Indian Air Force is expected to deploy around 180 Sukhoi Su30MKI long range strike fighters.

CHINA: by 2015, the People's Republic of China is expected to deploy around 250 to 300 Sukhoi Su27SKJ11 long range fighters. By 2010, China's Air Force will deploy around 60 Sukhoi Su30MKK long range strike fighters. China has also ordered the Russian A50E AEW&C system.

INDONESIA: by 2010 Indonesia aims to field around 50 Sukhois.

MALAYSIA: operates 18 MiG29N Fulcrums, eight FA18Ds, and 16 legacy Northrop F5EFs. A recent order has been placed for 15 Su-30MKMs.

SINGAPORE: a mix of 50 F16AD and 50 rebuilt MDC A4SU Skyhawks. Singapore intends buying 20 new strike fighters.

Source: Dr Carlo Kopp's 2014: *The Regional Balance of Air Power*