How they got it wrong

By Dr Carlo Kopp

The May 14 Defence Watch briefing contained a number of unsupported assertions. In relation to F/A-18s armed with cruise missiles like JASSM vs F-111, Defence stated: “Because we’ll be able to carry two follow-on stand-off weapons, strike capability is more survivable than the current one.”

This is a non-sequitur – the original plan for the F-111C was to carry up to four such weapons. A single F-111 armed with four follow-on stand-off weapons vs a pair of F/A-18As each carrying two weapons, exposes one rather than two aircraft. The much faster and low-flying F-111 is exposed for a shorter time. The argument also neglects the cost advantages in using one F-111 vs two tanked F/A-18As to do the same job.

Defence also stated: “. . . those aircraft that will carry the follow-on stand-off weapons will also carry air-to-air weapons as well, and they can protect themselves, they can look after themselves and they don’t have to be escorted.”

Defensive fighter escorts are only required where there is a prospect of encountering airborne Sukhois, especially if supported by AWACS. Under these conditions the self-escort model is problematic, since the Sukhoi has a decisive BVR radar/weapons range advantage over the heavily loaded and slower F/A-18A. If the strike-tasked F/A-18A attempts a head-to-head BVR engagement, the Sukhoi Su-27/30 wins every time.

Defence stated: “The follow-on stand-off weapon – two of them can be carried by an F/A-18A – and we will be able to engage, deploy more
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“We need to be expeditionary for the defence of Australia, because all of our combat elements, other than one fighter squadron, live on the east coast or in the south of Australia. To respond to any contingency in an Australian context, we need to be able to deploy our forces to our bare bases in the north. That requires an expeditionary capability.

“If we’re capable of that, we should have the flexibility, the adaptability and the responsiveness to be able to do whatever else Government requires.”

“The vision emphasises joint operations – as part of a coalition operation. Essentially the future’s all about a networked Australian Defence Force. Unless we do that we’re not going to get the full power of the system. The power of the system will exceed the sum of the individual parts.

“You get a lot more combat effect from a system than you will from a series of disparate platforms. When you’re looking at comparisons between defence forces, you don’t go back to the old platform-centric way.”

Houston also praised the new Air Force culture. “It’s an adaptive culture,” he said. “It’s a values-based leadership culture; that emphasises our people.

“If you get the right culture, you get the right results. People are values-based; and values are all about behaviour. You get the right results in an environment where innovation and creativity can flourish.

“If we can harness the intellectual power of all those young people that we have in the Royal Australian Air Force, we are going to be a much better air force.

“The culture is creating a learning environment, which demands people-oriented leadership, where we’re very open and very accessible.

“Our people are absolutely magnificent. We have the right people. We recruit the right people. Our culture is right.

“Also our doctrine is right. We don’t know what’s going to happen in the world tomorrow. We need flexibility, so we have to have that expeditionary capability.”


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This is nonsense. JTIDS/Link-16 is available in standalone terminals or combined TACAN/JTIDS/MIDS terminals. The improved data modem is now available as a standalone terminal, as will be the new JTRS modem. All terminals will be soon available as software radios running on general purpose VME processors, drop-in hardware compatible with the F-111 Block C-4 system. Given the existing software to provide situational awareness PPI displays on the F-111 cockpit displays, integrating such terminals into the existing F-111 avionic system is a small engineering task.

Defence stated: “Post-2010 we go into an environment where we would have to totally upgrade the F-111 over what it is now, to make it survivable in the likely environment. . . . We’d have to do another full avionics update to equip it with systems such as Link-16, the protection systems and all the other systems that it would need . . .”

This also is nonsense. Adding new EWSP equipment and networking capabilities are incremental tasks – by definition these cannot be called “another full avionics update”. The ALR-2002 warning receiver is a ‘drop-in’ replacement for the ALR-62, and the existing bays for the ALQ-94/137 can easily fit replacement jammers if the recently added Elta 8222 jammer pod is deemed inadequate. The Block C-4 upgrade sees Mil-Std-1760C interfaces fitted, providing compatibility with all new-generation munitions – this money has already been largely spent, unlike the F/A-18A upgrade.

Defence stated: “It would be an incredibly expensive undertaking for an aircraft that is basically ‘60s technology; ‘60s technology means that it is very difficult to maintain and to get a large number of aircraft on the line ready for operations.”

This statement directly contradicts earlier comments in the same briefing about outstanding F-111 availability.

It also misrepresents the cost of adding hardware into the 1990s and post-2000 generation avionic suite now fitted – the AUP, AMP and BUP avionics are not 1960s technology.

The airframe and engines may be 1960s technology, but neither have any bearing on the cost of fitting new EWSP equipment, networking equipment and other enhancements, like a new radar.