‘Wedgetail’ battles doubting DMO

Australia’s commitment to ongoing support for project ‘Wedgetail’ is to reach a peak in the third quarter of calendar 2009, as the promise of new radar and systems integration technology battles a harder edge in post-Mortimer procurement policy looking to re-evaluate manned aircraft-based battlespace awareness solutions against other methods for delivery of similar capability outputs.

Nick Merrett/CANBERRA

Phase 3 of the $4,089m project Air 5077 aims to introduce into the ADF a brand new capability in the form of an Airborne Early Warning & Control (AEW&C) capability based on six aircraft and associated supplies and support. Boeing first confirmed June 2006 an 18-month schedule delay in delivery of the required capability citing problems with sub-system integration, supplier hardware availability, radar and electronic support measures maturity, and aircraft modification.

This was extended by two years in February 2007 as part of a March 2007 schedule replan and with a further revision in early-2008 booking additional delays against the contract baseline. Boeing advised 10 June 2008 a 10 month delay, and in November a further two month delay to delivery of the first fully mission capable aircraft, now set for March 2010, a total delay of 40 months against the contract baseline.

Because of schedule delays, the first three aircraft continue to be used to support the developmental test & evaluation (T&E) and acceptance of T&E activities. The fourth and fifth aircraft successfully completed the first stage of their modification programs and functional check flights in January 2009. They are scheduled to complete the remainder of their modification programs by the end of 2009, and the sixth aircraft is scheduled to complete its modification program by early 2010.

In remediation of the ‘loss’ of interim capability, Boeing has proposed to deliver two aircraft in July 2009 that will have sufficient capability to enable the commencement of training, and bedding-down of the aircraft’s logistics support systems. Initial operating capability (IOC) is now targeted for late-November 2011 – with final operating capability by either end-2012 or early-2013 – subject to progress integrating Northrop Grumman’s multi-function electronically scanned array (MESA) radar.

The results of a DMO-commissioned Massachusetts Institute of Technology (MIT Lincoln Laboratory) study are set to provide the ADF in June with the means to independently assess baseline AEW&C system performance. Operational flight-tests were also flown April/May as part of Exercise ‘Arnhem Thunder’ in the Northern Territory.

DMO General Manager-Programs, Warren King, told a Parliamentary Defence Sub-Committee 16 April that – based on the Lincoln Laboratory reports and ‘Arnhem Thunder’ outputs, a decision would be made in June at a planned meeting of all project stakeholders to determine future pathways for the AEW&C capability.

Whilst King questioned whether there was still “a future for this technology,” the 2009 Defence White Paper alternatively spoke glowingly of Australia’s ambitions to build a sophisticated air combat system “built on advanced multi-role combat aircraft as well as ISR systems, AEW&C and air-to-air refuelling aircraft, air bases … and seamless joint command and control systems.”

Further, DWP’09 proposed additional upgrades to AEW&C capability in the future, including “fitting Cooperative Engagement Capability (CEC) ... in order to optimise the capability advantages offered by the SM-6 missile (proposed for the air warfare destroyers).” Boeing reported 7 January its conduct of the first 737-based AEW&C air-to-air refuelling during flight testing in the US. The subject ‘Wedgetail’ platform took on 6,355kg (14,000lb) of fuel from a USAF KC-10 near ‘Edwards’ AFB in California, and went on to make a fuelling system hook-up with a KC-135 three days later.

Two Australian-modified ‘Wedgetail’ aircraft were also reported as having each performed successful post-modification functional check flights in late-January with two-and-a-half hour flights out of RAAF Base ‘Amberley’ advancing a series of functional tests that verified the airworthiness of the 737-based aircraft’s systems and structures.

The initial AEW&C facility at RAAF Base ‘Tindal’ was accepted in April 2009, with the balance of Tindal precinct upgrades (approved by Parliament in June 2008) said to be proceeding on schedule. Thales Australia’s Level 5 Operational Flight Trainer, situated at the AEW&C support centre at RAAF Base Williamtown (NSW), was accepted by Defence in February 2009.

Boeing repeated in early-May, at RAAF Base ‘Williamtown’, a recent US demonstration which saw three ‘ScanEagle’ unmanned aircraft systems (UAS) simultaneously commanded and controlled from a ‘Wedgetail’ aircraft. Using the company’s UAS battle-management software, airborne operators are said to have issued NATO-standard sensor and air-vehicle commands via a UHF satellite communication link and ground-station relay.

Operators tasked the subject UAS’ with area search, reconnaissance, point surveillance and targeting – with each sending back real-time video imagery of ground targets. The UAVs were launched by Boeing Defence Australia personnel from the Woomera Test Facility in South Australia, some 1,730km away. ADBR

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BIG AIR 5077 DECISIONS COMING IN JUNE: The results of a MIT Lincoln Laboratory study and operational flight-tests in April/May flown as part of Exercise ‘Arnhem Thunder’, are said to have provided the Government with sufficient independent information to make a decision in June, in terms of future pathways for the AEW&C capability, now 40 months behind its baseline delivery date. DMO General Manager-Programs, Warren King, says however, it might take to September until enough information is gathered to decide on whether the ‘Wedgetail’ program remains “a viable and competent capability that has a long-term future that is of value to the ADF”. The Defence White Paper, however, proposed a further upgrade to AEW&C capability by way of fitting a Cooperative Engagement Capability (CEC) to optimise strike advantages offered by fitting the SM-6 missile to the project Sea 4000 air warfare destroyers.