

**ADDRESS BY CHIEF OF AIR FORCE
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Seminar Theme: New Thinking on Air-Land (Jericho at the Seam)

Senior VIPs acknowledged, fellow service chiefs, distinguished guests, ladies and gentlemen. Those of you who attended the Air Power Conference heard that Air Force is in a very good place. Over the past 15 years we have made and won the compelling arguments for 'networkable' aircraft, sensors, weapons and support systems that will be the backbone of the Air Force for at least the next two decades. As air power practitioners, we assert that these aircraft and system acquisitions are obvious - to provide a balanced and capable Air Force. However, we live in a world of competing demands. It is a complex undertaking to achieve a Defence force balanced across the military domains. It is at times challenging for Defence to argue for significant investments in the face of

economic reality and competing demands across the many responsibilities of government.

The Defence White Paper, Integrated Investment Program and Defence Industry Policy Statement together provide us with the framework for a balanced ADF. The ongoing implementation of the First Principles Review ensures the ADF will be delivered into an organisation optimised to employ it. This force, and those which continue to evolve from it, must be planned joint at the outset. As the Italian air power theorist Douhet observed: *'The three forces should function as ingredients-or factors-of a single product in which the best results can be obtained only by a proper apportioning of the ingredients used.'*

The capabilities that have recently entered service with Air Force, when joined by those committed to in the Integrated Investment Plan, and placed in the hands of a workforce skilled and empowered to use them will

transform the RAAF into a truly 5th generation air force – capable, agile and potent. It will be an Air Force integrated by world-class networkers and seen as a valued partner by our sister Services and allies. We have arrived at this opportunity before many of our contemporaries and certainly stand at the forefront in our region and perhaps globally.

Air Force has balance and adaptability, but remains modest in size. We must be smart and innovative in how we plan to use our air power. The White Paper commits Defence to an increased emphasis on the Joint force. Air Force is well along the path of testing and implementing innovative means of integrating our part of the Joint force. This is a key theme of Plan JERICHO. As a result we are well placed to engage with VCDF Group, Army and Navy in the development of a deeply networked and integrated Joint ADF, based in our own experience, as their respective modernisation gathers pace.

Air Force's successes to date have come with the close cooperation of industry. You may have seen L3's AirView 360 display during the Air Power Conference. Working with industry we have demonstrated the ability to provide commanders with the situational awareness to plan while in flight.

C-17A is but one example of exploiting the capabilities of 5th generation systems toward networked, integrated outcomes.

It is difficult to speak of Air Force in the here and now of 2016. It is almost a case of 'blink and you'll miss it' as new capabilities continue to be introduced at a demanding pace – thank you Air Marshals Mark Binskin and Geoff Brown. For Air Force, it is more sensible to speak of 'current' as being the middle of the next decade, when the mature inventory expounded in the White Paper will largely be in place. Our aspiration is the realisation of the

full potential of that force, be it in the conduct of air missions or as part of joint, allied or Coalition operations.

I do not intend to provide a 'Janes' guide' to the Royal Australian Air Force. The detail is there in the White Paper and Integrated Investment Program and has been pored over, analysed and commented upon in detail since its release. I observe from Air Force's experience, and share with my fellow ADF chiefs, that while the pace of Air Force's transition is demanding and ongoing, it is a journey worth the reward. The ongoing success of our Air Task Group's efforts in the skies over Iraq and Syria bears witness to what is possible with the capabilities that are entering ADF service. Navy and Army are in for sustained high tempo change, but with significant rewards for staying the course.

It is worth noting that 25% of the Integrated Investment Program is allocated to the 'glue' projects, those which

realise the full potential of the platforms. The White Paper acknowledges that Defence has failed in the past to invest adequately in the projects that provide the ADF with its infrastructure, support and networking capacity. We must not lose motivation in championing those projects. Without them, we will fall short of our aspirational goals.

As I stated at our Air Power Conference, by 2025 the C-130J will be the veteran of the Air Force fleet, at a still sprightly 26 yrs of age. The youthfulness of our inventory will be the envy of many. We will have the ability to meet government's expectations across the spectrum of air power roles: control of the air, strike, ISR and mobility.

By 2035, the horizon of the White Paper, the majority of the 2025 Air Force platforms will still be relatively youthful in RAAF service. In the past our ability to evolve to meet emergent threats and maintain contemporary levels of capability have been hampered by the need to periodically

invest in expensive, and normally time consuming, major upgrades. As a result, we have had to risk manage our aircraft through the downtime of upgrade programs. The ORBAT of 2025 will have a common feature that should permit us to better manage this problem: All of our platforms will be software driven. I am not saying 'simple software fixes' will be our salvation. However, the ability to respond to emergent challenges and a fluid operating environment is simplified somewhat when the solution is to cut code, rather than cut metal. Our modern platforms effectively enter service with the option of a 'subscription service' attached. We can, and we do, subscribe to the ongoing development of the software configuration of our platforms. We collaborate with other users and industry partners to ensure our systems evolve to meet the changing environment. To not do so rapidly creates orphan fleets – platforms which might look the same as those of other operators, but whose capabilities differ. The ongoing support of orphan fleets rapidly becomes of

diminishing interest to the common baseline community, except at considerable and mounting cost. You only have to look at the range of operating systems on personal and work place computers, and the applications and functionality they can support, to readily understand the impact of straying from the software mainstream.

The Air Force in 2035, must be replete with knowledgeable operators. Not just aviators and specialisations providing direct operational support. We will need input to and influence in the international users and industry groups, where our platforms will be part of a broader community. We already do this with a number of aircraft; it will become the norm. We must also choose wisely and invest in software where we need to hold a sovereign capability. I am not beating the source code drum. With aircraft code being counted in the millions of lines, to do so would be overly ambitious. No, what we need is to understand what can be changed, what effect

will be realised, and how to best achieve that outcome. It may be achieved by having teams working alongside and within international support labs or by having appropriate sovereign reprogramming capabilities, along the lines of those currently resident in Australia's Joint Electronic Warfare Operational Support Unit – JEWOSU.

We cannot be solely reactive, although the ability to respond will be important. It will be equally important to ponder the 'what ifs', to 'red team' the future environment in order to be prepared, or at least aware, of the shocks and challenges which might impact upon our future. It is one thing to have an aspiration for the future; it is pragmatic to plan for the journey not to be as smooth as one would hope. History shows us that the future is unlikely to follow the play book. The successful teams are the ones who have considered the range of possible outcomes – including the bizarre ones – and have prepared accordingly. Hence the need for agility in

response, which will naturally emerge as a result of considering the range of possible futures. Flexibility – imbued in the DNA of air forces – will be essential for success in an uncertain future.

By 2025, serious planning for the Air Force after next will already be well underway. In 2000 it was confidently predicted that stealthy UCAVs would be a feature of air forces by 2020. The conflicts of recent years have favoured the development of UAVs, unarmed and weaponised, along a different trajectory, but the need for systems that provide control of the air is certain. This is the *raison d'être* of air forces, and provides the freedom for military action in all domains. What those systems will be, and how they will achieve it, is not so clear.

In a future which becomes less defined the longer we project into it, some things remain essential. Central among them are people – versed in air power, thinking

joint, technologically aware, and able to argue the business case in future cycles of the joint capability process: a force by design.

Governments of the future will want an air force, and a Defence force, able to provide responsive options to contingencies as yet unknown. The ability to offer government options for conflict and civil assistance will endure.

You may have observed my sparing reference to Plan JERICHO, the means by which Air Force is transforming itself into a fully integrated force for the information age. Downplaying it has been deliberate. JERICHO is a journey, a way ahead; it is not an endstate in itself. It should and it will become the 'business as usual' model.

Today, I have spoken of our networked, integrated force. I have highlighted the need to have the right people to carry

us forward into an uncertain, but certain to be challenging, future, and I have touched upon some of the considerations that capability planners will need to be well educated to argue in the future. Those are the three JERICHO themes: harness the combat potential of an integrated force; develop an innovative and empowered workforce; and change the way we acquire and sustain capability. As General George S Patton observed, *'Never tell people how to do things. Tell them what to do and they will surprise you with their ingenuity.'*

Every journey begins with a step and Air Force has set off down the road. We look forward to the ranks swelling as we develop and employ the means to integrate with Army and Navy in offering government new and innovative options to respond to the challenges of the future.

Thank you.