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Strategic Considerations

Introduction

2.1   Strategic considerations, both global and regional, are imperative when discussing Australia's future regional air superiority. Government's strategic objectives are a cornerstone of defence policy and acquisition decisions. It is not surprising then that strategic debate has underpinned the evidence received by the Committee for this inquiry.

2.2   Evidence gathered by the Committee noted several strategic considerations which impact Australia's decisions regarding air superiority. This chapter will group these issues under two general headings:

■   contemporary strategic concepts; and

■   regional strategic assessment.

Contemporary strategic concepts

2.3   Changes occurring in strategic doctrine directly impact decisions being made about the maintenance of Australia's regional air superiority. New asymmetric threats, increased technological capability coupled with Australia's unique defence requirements have, over time, changed Australia's defence strategy. In the case of

air power doctrine (but not exclusively) the maintenance of Australia's regional air superiority is being influenced by developments in 'network centric warfare' and 'beyond visual range' weapons and tactics. While concepts such as these are not new, they do impact Defence's procurement strategy. This is best reflected in the decision to participate in the JSF program.

2.4   The remainder of the chapter will review several strategic concepts which have arisen over the course of the inquiry and their impact on the maintenance of Australia's regional air superiority. They are:

- network-centric warfare;

- beyond visual range;

- balanced force structure; and

- asymmetric threats.

Network-centric warfare

2.5   Network-centric warfare (NCW) is a term which describes how information is gathered by a variety of sources and rapidly disseminated amongst a connected network of land, air and sea forces in order to provide increased situational awareness and the ability to react/strike first.

2.6   One of the reasons for the Government's decision to participate in the JSF program and pursue communication systems such as the AEW&C aircraft, is the recognition that modern warfare, and air warfare in particular, has become network-centric.

2.7   Defence has recognised this for some time. In *Defence 2000 – Our Future Defence Force*, networking was cited as a key characteristic of the Revolution in Military Affairs—the uptake of information technology by armed forces, which continues to impact the ADF.[1]

2.8   Defence's submission to the Committee further established its commitment to network-centric warfare stating that it:

> … is moving away from a platform centric approach to warfare and is moving towards a network centric approach with emphasis on information and knowledge superiority.[2]

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1   Department of Defence, *Defence 2000 – Our Future Defence Force*, December 2000, p. 108.

2   Department of Defence, *Submission No. 15*, *Sub. Vol. 1*, p. 65.

2.9   Professor Ross Babbage described to the Committee the future of the regional air defence environment:

> Air superiority will not be achieved simply by operating advanced fighter aircraft. Key elements will include space based sensors, high altitude surveillance sensor of various sorts, over the horizon radar systems, [AEW&C], other electronic sensor systems and so on.[3]

2.10   Professor Babbage notes that these elements will be 'highly networked' thereby enhancing the ADF's ability to maintain regional air superiority.[4]

2.11   This description echoes Defence's plan for the future Air Force air combat capability. The plan includes three phases:

■   current equipment upgrades and bi-lateral exercises;

■   the introduction into service of a number of new systems and upgrades to existing platforms; and

■   the future purchase of the JSF.[5]

2.12   Defence expects that the continued systems upgrades and acquisitions will ensure that Australia maintains an air combat capability edge in the region. The final phase, in particular, is expected to provide a:

> … quantum leap in Air Force air combat capability for Australia both, because of the capabilities of the JSF itself and also because of what it will bring as part of the overall networked ADF capability.[6]

2.13   The advantage of a highly networked ADF was also highlighted by Dr Alan Stephens, who noted that the continued integration of networked sources in the ADF will result in 'an unequalled degree of situational awareness, which historically has represented a combat advantage of the highest order.'[7]

2.14   Despite the advantages networking presents to Australia's regional air superiority capability, challenges remain. Dr Stephens commented that 'if network systems are to realise their full

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3   Professor Ross Babbage, *Transcript 31 March 2006*, pp. 26–7.
4   Professor Ross Babbage, *Transcript 31 March 2006*, pp. 26–7.
5   Department of Defence, *Submission No. 15, Sub. Vol. 1*, pp. 66–7.
6   Department of Defence, *Submission No. 15, Sub. Vol. 1*, p. 67.
7   Dr Alan Stephens, *Submission No. 1, Sub. Vol. 1*, p. 5.

potential, very significant developments in how Defence Forces work together will be required.'[8]

2.15   Dr Stephens was referring to the need to overcome what he described as 'powerful cultures' within the individual services which have the potential to hinder the effectiveness of joint warfare capabilities. Dr Stephens did point out, however, that Australia's individual services undertake integrated operations 'very well.'[9]

2.16   Dr Stephens' comments were a reminder to the Committee that networked systems, while representing a marked advantage in war fighting capability, are still vulnerable to a variety of factors. The Committee noted that 'the strengths of the JSF and anything else … the network-centric approach to warfare are also the weaknesses.'[10]

2.17   Dr Kopp noted the advent of Russian long-range missiles that have been designed to destroy AEW&C aircraft. He was concerned that unless Australia possessed a fighter plane which could push out beyond the network and hunt down fighters carrying these missiles, the system could be at risk.[11]

2.18   A submission by Dr Jensen MP also cautioned that the 'jamming of the network data links by an enemy would essentially reduce the networked fleet to the capabilities of … individual platforms.'[12]

2.19   The Committee posed these scenarios to Professor Babbage who commented that while these were important issues, new systems in development and a commitment to a 'multilayered' approach to defence would overcome these challenges.[13]

2.20   Professor Babbage stated that the advantages to having a networked system overcame any potential challenges as long as the network is robust, enduring and long-range.[14]

Beyond visual range

2.21   Defence strategists consider beyond visual range (BVR) to be the future of air combat. Dr Stephens told the Committee that 'there is a

8   Dr Alan Stephens, *Transcript 31 March 2006*, p. 20.
9   Dr Alan Stephens, *Transcript 31 March 2006*, p. 20.
10   Committee, *Transcript 31 March 2006*, p. 36.
11   Dr Carlo Kopp, *Transcript 31 March 2006*, p. 6.
12   Dr Dennis Jensen MP, *Submission No. 21, Sub. Vol. 2*, p. 248.
13   Professor Ross Babbage, *Transcript 31 March 2006*, p. 37.
14   Professor Ross Babbage, *Transcript 31 March 2006*, p. 37.

consensus amongst air defence professionals that the key to victory in the twenty-first century will be to dominate the beyond visual range domain.'[15]

2.22   In the BVR domain enemy targets are destroyed by missiles far beyond the sight of those who have launched them. First detection means the first kill. Having networked systems allows for the greater possibility of early detection, thereby ensuring success.

2.23   Air Marshal Shepherd told the Committee that Defence now has long-range stand-off missiles and gave his vision of the future:

> I hope that my fighter pilots of the future never get to see an enemy aeroplane unless it is in the data-linked image that is sent back from the long-range missile as it is about to hit one and blow it up.[16]

2.24   In contrast, Dr Jensen MP warned in his submission that:

> The Department of Defence is being naïve if it believes that all air combat in the future will take place in the beyond visual range arena, with combat never getting to the merge.[17]

2.25   Dr Jensen MP cited several historical examples when strategic assumptions were proved wrong and noted that even the JSF still carries a gun.[18]

Balanced force structure

2.26   A balanced force structure, in the Australian context, refers to the need to balance limited resources amongst the Air Force, Army and Navy in order to achieve the best possible outcomes to meet Australia's national interests.

2.27   To ensure regional air superiority, Defence has argued that Australia 'cannot buy an air defence force or an air superiority force at the expense of other aspects of a balanced Defence Force.'[19]

2.28   The concept of a balanced Defence Force becomes important when considering the decision to purchase the JSF, retire the F-111s and

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15   Dr Alan Stephens, *Submission No. 1, Sub. Vol. 1*, p. 6.

16   Air Marshal Shepherd, *Transcript 31 March 2006*, p. 60.

17   Dr Dennis Jensen MP, *Submission No. 21, Sub. Vol. 2*, p. 249.

18   Dr Dennis Jensen MP, *Submission No. 21, Sub. Vol. 2*, p. 249.

19   Air Marshal Shepherd, *Transcript 31 March 2006*, p. 54.

upgrade the F/A-18 Hornets—all issues which will be covered later in this report.

Asymmetric threats

2.29   The word asymmetry, in a strategic context, can be used in several ways. It may refer to an engagement between dissimilar forces or the use of a different strategy to gain an advantage over an adversary. In the context of this inquiry, the word asymmetric is used to describe threats such as terrorism, information warfare and the use of weapons of mass destruction.

2.30   Australia's ability to maintain regional air superiority must be based, in part, on its ability to counter asymmetric threats. This inquiry has examined the impact of asymmetric threats on Defence's plan for the future Air Force combat capability.

2.31   Some commentators, including Defence, are confident that the current plan for the future Air Force combat capability, which includes the purchase of the JSF, addresses potential asymmetric threats facing Australia.[20]

Committee comment

2.32   The Committee has been provided with a broad outline of the various strategic concepts which underpin the Government's decision's regarding the future air combat capability plan. Australia must continue to recognise and integrate new strategic considerations, such as network centricity, into its defence planning in order to maintain air superiority in the region.

2.33   The Committee recognises that capability requirements must be viewed in the context of both existing and projected strategic considerations, as well as developments in war fighting and technology.

Regional strategic assessment

2.34   Integral to the debate surrounding the best future Air Force air combat capability is the strategic foundation upon which the plan is

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20   See Professor Ross Babbage and Defence evidence, *Transcript 31 March 2006,* pp. 26–40 (esp. p. 32 and p. 40).

based. Defence told the Committee that its strategic guidance is contained in the *Defence 2000 – Our Future Defence Force*.[21] This guidance provides the basis for Defence planning.

2.35   Some evidence received by the Committee took issue with the strategic basis upon which Defence is making its decisions. This evidence provided an alternate view of the strategic challenges facing Australia.

The Defence perspective

2.36   Mr Pezzullo, Deputy Secretary Strategy, advised the Committee that Defence bases its decisions on the guidance it receives from the Government. In the case of the future air combat capability plan, the strategic underpinnings of Defence's decisions are based on the *Defence 2000 – Our Future Defence Force* and subsequent guidance from updates such as the *Defence Update 2005*.[22]

2.37   Government's most recent strategic assessment can be found in the *Defence Update 2005* under the heading 'The Growth of Regional Military Capabilities.' This section acknowledges that 'military capabilities in the Asia Pacific region are growing,' and notes that disparities are appearing between the military capacity of larger and smaller countries in the region. The report also states that:

> … middle-level powers [in the region] will seek to extend their capacity to project power and to gain further advantage from networking and the fusion of intelligence, surveillance and reconnaissance systems.[23]

2.38   Defence defines 'the region' as 'the nations and environs of South East Asia and the South West Pacific,' and advised the Committee that any operations beyond the region 'would be part of a wider coalition and any capability comparison would require a comparison of the coalition capability rather than just that of Australia.'[24]

2.39   Defence is confident that the current future Air Force air combat capability plan, which is explained in detail in Chapter 3, more than

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21   Mr Michael Pezzullo, *Transcript 31 March 2006*, p. 41.

22   Overview of the *Defence 2000 – Our Future Defence Force* and subsequent Defence Updates can be found in Chapter 3.

23   Department of Defence, *Australia's National Security – A Defence Update 2005*, December 2005, p. 5.

24   Department of Defence, *Submission No. 15, Sub. Vol. 1*, p. 64.

adequately addresses the strategic guidelines established by the Government.

Different perspectives

The ability of regional countries to achieve a network-centric warfare model

2.40   Dr Stephens expanded on the Defence position, noting that although countries in the region will attempt to network, as the 2005 update suggests, no other state, with the exception of India, China and perhaps Singapore, can:

> … realistically aspire to assemble the essential combination … of high-quality people, advanced technologies, robust indigenous R&D [research and development], the right ideas and the economic strength.[25]

2.41   When questioned further about what the Committee considered to be a potentially dangerous assumption, Dr Stephens observed that Defence Forces in the region faced organisational barriers between the services which hindered their ability to implement a joint warfare model.[26]

2.42   Dr Kopp did not believe that Dr Stephens assertion was a reasonable one and cited the following points to support his claim:

- the large and growing populations of regional countries will enable them to source the necessary talent to implement NCW models;

- the standard of education and training across the region is improving; and

- new technology is highly automated and therefore easily operable for those with very low skills.[27]

Redefining the definition of the region

2.43   Dr Kopp and Mr Goon are also of the opinion that the strategic basis upon which Defence is making its decisions is flawed. In particular, they believe that the Government definition of 'the region' should be widened in order to address new geo-strategic realities:

25   Dr Alan Stephens, *Transcript 31 March 2006*, p. 19.
26   Dr Alan Stephens, *Transcript 31 March 2006*, p. 20.
27   Dr Carlo Kopp, *Transcript 31 March 2006*, p. 9.

> There is a basic issue of how we define the region and how we plan our force structure. The idea that the near region—and this covers the South East Asian nations—is virtually our sole concern because of geographical proximity is really predicated on the idea that this is the only land mass from which you can launch aircraft into Australian airspace. That assumption is no longer true.[28]

2.44   Dr Kopp and Mr Goon noted that countries such as China and India have the ability to reach into Australian airspace in a limited capacity and that defence planning needs to address this issue by ensuring that Australia is able to discourage countries such as China from 'even contemplating a coercive political play.'[29]

2.45   Defence's response to this suggestion reiterated its previous comments that any military engagement with forces beyond the Government's definition of the region would be an operation undertaken by a coalition of national armed forces.

2.46   Mr Pezzullo advised the Committee that:

> The scenario [military conflict with China or India] is predicated upon a massive erosion of US military and strategic capability … and Australia having to operate independently beyond our immediate region … [this] is a radically different set of circumstances which, I must say, I do not necessarily see even in the most speculative parts of my crystal ball … The only basis upon which I could see that arising would be through a massive political rupture of the relationship [Australia/US] … and a massive erosion of the US military capability edge.[30]

Committee comment

2.47   Regional countries will continue to advance their air warfare capabilities. Providing Australia continues to implement new and enhanced capabilities and does not underestimate the capacity of others, the chances for maintaining regional air superiority are good.

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28   Dr Carlo Kopp, *Transcript 31 March 2006*, p. 8.
29   Dr Carlo Kopp, *Transcript 31 March 2006*, p. 8.
30   Mr Michael Pezzullo, *Transcript 31 March 2006*, p. 42.

2.48 Defining a region can be an ambiguous process—the exact nature of what constitutes Australia's region only has meaning within the overall context of a particular strategic view. The current strategic view is that which is set out in the *Defence 2000 — Our Future Defence Force* and subsequent updates.