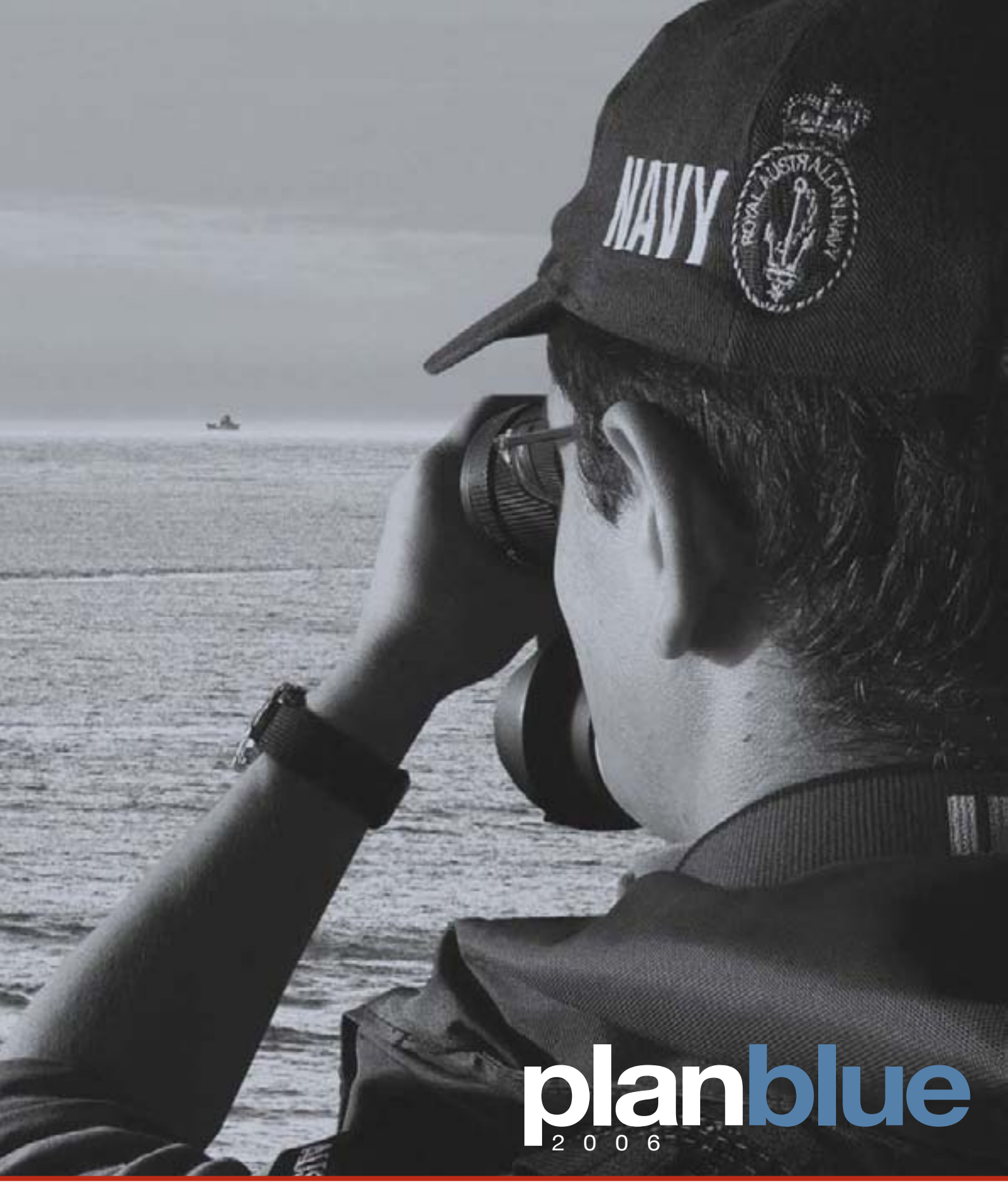

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NAVY

FOREWORD

Plan Blue 2006 is a strategic assessment which is made periodically in order to shape the Future Navy. Decisions must be made today with an eye to the future. We must articulate the Navy we need to be, with the right people, ships and equipment, and the appropriate support, facilities and organisation to fight and win as part of a balanced and networked joint or combined force.

In considering our future, we must not forget the lessons of our past. The Royal Australian Navy has played a crucial role in securing Australia's national interests at home and abroad for over 100 years and must continue to strive for excellence and maintain relevance in a changing world. While the focus of current and future ADF operations will remain joint in nature, experience over the past 15 years demonstrates a continuing need for a Future Navy to operate both jointly and independently.

The Navy must provide maritime forces that contribute to the ADF's capability to ensure the defence of Australia and its direct approaches, contribute to the security of our immediate neighbourhood, and support Australia's wider interests. The Future Navy must continue to be structured for combat operations, based on a concept of a balanced fleet, providing a range of flexible and responsive options to Government across the conflict spectrum.

We must always be prepared to defend our interests under, over, adjacent, and on the world's oceans and seas. At the same time we must keep in mind that what happens at sea is inextricably linked with events ashore. In that context, sea power influences events elsewhere and the Navy must remain poised to deal with credible threats and to protect Australia and our national interests.

Notwithstanding that the RAN mission is *to fight and win at sea*, we will remain involved in a number of constabulary and diplomatic operations. Our Government has adopted a 'fundamentally maritime strategy' for Australia's security. I expect this strategy will endure for the foreseeable future.

Plan Blue 2006 is my strategic guidance for the evolution of the Future Navy. It articulates Navy's view of the future and the challenges we face. Government policy such as *Defence 2000, Defence Update 2003* and *Australia's National Security - A Defence Update 2005* and the joint Defence Planning Guidance have informed my guidance. It supports Navy's *Future Maritime Operating Concept 2025* and will be implemented through Plan Green and a new follow on strategy titled - *The Navy Strategy - Charting the Course to 2025*. This strategy will be developed and published by mid 2007 and will be a bridge between Plan Green and Plan Blue. I expect Navy's leaders to begin working toward the Future Navy today. I invite Navy's enabling organisations to join us in that endeavour.

We must scan the future and evolve Navy so that we are prepared to meet the challenges in defence of our nation for the decades to come. I commend *Plan Blue 2006* to you.

VICE ADMIRAL R.E. SHALDERS
CHIEF OF NAVY
16 NOVEMBER 2006

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INTRODUCTION

Plan Blue 2006 is the Chief of Navy's (CN) strategic guidance for the evolution of the Royal Australian Navy and transition to the Future Navy[1]. It examines the next 20 years to highlight the significant challenges Navy will face and informs the development of the appropriate people, major systems, support, supplies, facilities, training and organisational systems and processes to support the delivery of maritime power. Plan Blue 2006 articulates a number of aspirational objectives, so today's decisions can be informed by a view of Navy's future.

1. The release of Plan Blue 2006 forms part of the three year Navy Innovation Strategy (NIS) cycle. The starting point of the current cycle is the Future Maritime Operating Concept 2025 (FMOC) approved by the Chiefs of Service Committee (COSC) in December 2005. Plan Blue 2006 provides strategic guidance for the development of a Future Navy that is capable of delivering the span of maritime operations required by the FMOC. The third part of the cycle is Navy's Maritime Experimentation Program, and specifically 'Headmark', that tests and refines the FMOC. This closed loop cycle ensures the FMOC remains relevant and aligned with CN's strategic direction, joint guidance and an ongoing assessment of the future environment.

2. The structure of Plan Blue 2006 remains similar to its predecessor Plan Blue - Headmark 2025. To set the context for the Future Navy, Plan Blue 2006 summarises the key issues from analysis of the future security and organisational environment. It incorporates key themes of the FMOC. A broad description of the quality and characteristics of the Future Navy required by the analysis of the environment and consideration of the FMOC follows. This enables examination of the issues within each Fundamental Input to Capability (FIC) through the listing of goals and accompanying CN guidance. Plan Blue 2006 concludes with a summary of the issues discussed and an introduction to the implementation strategy. In this way, a logical and aligned audit trail is established between the Government's policies, Defence planning, CN's guidance and the development of the Future Navy.

3. While Plan Blue 2006 examines the rationale (the why) for future capabilities (the what), the implementation of this strategy (the how) to achieve the goals in the Plan Blue 2006 vision will be through Plan Green and a new follow on strategy, The Navy Strategy - Charting the Course to 2025.

4. The following sections summarise the key issues facing the Future Navy envisaged in evolving Security and Organisational Environments.

1 The term Future Navy is used throughout Plan Blue and represents the vision of the RAN in 2025.

FUTURE SECURITY ENVIRONMENT (FSE) KEY ISSUES

5. The following section summarises[2] the Future Security Environment (FSE) over the next two decades. The FSE sets the context for the security challenges Navy will face, the tasks Navy may have to undertake and the environment in which Navy may have to operate.

6. In the next two decades Governments are expected to have to manage tensions associated with increasing populations, diverse ethnicity and culture, urbanisation, industrialisation, globalisation, corruption and crime, and dwindling national resources. These tensions will test the governance of some nations and create the potential for stabilisation and assistance missions. This is likely to be particularly relevant in our region.

7. It is expected that the sovereign state will remain the core unit of the international relations system. The United States (US) will remain the pre-eminent power. Other states, such as China and India, could exert increasing influence over their regions as their economies develop. As a result the balance of power in the Asia-Pacific may see some significant shifts in the 2025 timeframe. The United Nations (UN), regional groupings such as the European Union, and the framework of International Law should continue to influence and bind the behaviour of states. Stresses to the international system will come from rogue, failing or failed states and the continued presence of non-state actors operating outside the accepted international political system. Tensions will inevitably arise between governments and cultural and religious groupings that span state borders. It is anticipated that UN and ad hoc coalitions of like-minded nations will continue to be the usual form of combined force that deals with international security issues. Access to Host Nation support for deployed operations is likely to continue to be unpredictable. The sanctuary, manoeuvre space and freedoms offered by the sea will remain crucial to coalition and ADF operations.

8. Regional tensions will continue to be a factor in security planning over the coming decades. Examples may include China-Taiwan, the Korean peninsula, India-Pakistan and natural resource competition. In particular, resource issues in the South China Sea have the potential to impact strongly on the regional security situation. Many countries in the region remain challenged by internal conflict, the need for stable governance, and the need to develop sustainable economies. The security needs of East Timor and the Solomon Islands remain a particular concern.

9. The rise of terrorism as a coordinated international phenomenon, with a distinct regional aspect, is now a major factor for consideration by security planners. Whether the current level of terrorist threat will still be present in two to three decades is unclear. What history has demonstrated is that the tactics of insurgency and terror will remain part of the security landscape. Issues of Weapons of Mass Destruction (WMD), transnational crime and terrorist activities will continue to influence security in the maritime environment. The current multilateral Proliferation Security Initiative should develop further over the coming years.

Globalisation - Free Trade and Transnational Crime

10. The basis of world economic growth will continue to be industrialisation, urbanisation and international trade (predominantly seaborne). Asia will be a major hub of economic development and expansion in the coming decades. The Southeast Asian sea-lanes, critical for energy flows between the Middle East and Africa and Asia and the Western Pacific, will remain of crucial strategic importance. Globalisation, based upon the free flow of capital, people, information and trade, will continue to increase the economic interdependence of industrialised and industrialising states. The benefits of increased global mutual dependence and the flow of trade are accompanied by threats such as the potential movement of WMD and the growth of transnational crime. For example, cartels dealing in the illegal trafficking of drugs, weapons, people, money, fishing, and native animals are likely to expand their operations. The proliferation of WMD and advanced weapons technology will remain a major factor in strategic planning in the coming decades. Continued urbanisation along the seaboard will further increase the

2 A more detailed and classified assessment of the FSE is in Annex A of the FMOC.

importance of the littoral regions. Inequalities in global wealth distribution and economic dislocation will remain a source of instability.

Health and Pandemic Outbreaks

11. The increasing interdependencies of the global economy and the free movement of people and trade will affect the ability of governments to counter the spread of pandemic disease. Recent outbreaks of SARS and Avian Influenza are indicators of the potential impact on the region. The Navy may be called upon to assist regional nations with medical care, and may have to provide mobility, logistic support and hospital services in some areas where infrastructure is poor. In cases where Australia is affected, Navy may have to contribute to a cordon sanitaire around the Australian mainland adapting maritime interception skills in support of broader security.

The Environment

12. Environmental issues are of increasing importance in both the international and national spheres. The impacts of environmental pollution, depletion of ocean resources, and the effects of climate change may have serious repercussions for our region, most significantly through the potential for political destabilisation. For example, changes in climate could impact on the sustainability of fish stocks, increased severity and frequency of natural disasters, and lead to rising sea levels thereby adversely impacting the sovereign resources of small nations that depend on the sea for their livelihood.

13. Concurrently, within Australia ongoing political and community focus on environment issues will lead to increasingly stringent environmental compliance responsibilities being placed on those that use the sea. Navy must ensure that capability aspects of maritime activities are sustained, whilst meeting or exceeding Commonwealth legislative standards.

Natural Resource Competition

14. The future security environment will see increased competition between states for natural resources. The delineation of maritime boundaries and baselines to determine Exclusive Economic Zones (EEZ) and access to sea bed and water column resources will continue to drive tension between states. Access to potable water will become an increasingly critical issue for some states. Economic development and urbanisation is likely to result in an increase in the competition for resources.

Military Technologies

15. The confluence of emerging and existing technologies means that by 2025 it is likely that we will see new forms of weapons, sensors and platforms come into service. Computing power and communications capabilities are continuing to increase at a rapid rate. Open architecture software structures are improving the integration of weapon, sensor and communication systems. Nanotechnology and biotechnology are generating potential military applications. E-weaponry and computer attack will continue to be of concern. Uninhabited autonomous vehicles will grow in prominence and performance. Missile speeds and seeker capabilities are rapidly improving. Extended Range Gun Munitions and advanced land attack missiles are continuing to be developed and the ability of sea based forces to project power into the littoral is being significantly enhanced by these systems. Opportunities exist to leverage these technologies to increase Navy capabilities and provide greater reach in support of joint operations ashore. Threats will also arise as high-end military technologies become increasingly available and economic development places these technologies within the reach of a greater number of nations. High-end technologies will probably become more readily available to non-state actors. In response to the increasing emphasis and importance on the sea for trade, maritime resources, the interdiction of transnational crime and the increasing strategic importance of the littorals, regional navies are growing and modernising. Sophisticated platforms, sensors and weapons systems are being introduced. Submarine technology and high-speed long-range missile technologies are of particular concern. It will be a challenge for the Future Navy to maintain a technological edge.

Implications for the RAN

16. The FSE remains complex without a single dominating theme. It is characterised by a wide range of issues and tensions that will generate tasks across the spectrum of conflict, from potential involvement in coalitions intervening in state versus state wars, through insurgency and peace operations, to securing our maritime resource zones and the delivery of humanitarian aid in the wake of natural disasters. Security issues can be expected to arise with little warning. The tempo of operations is not expected to decrease significantly in the future. Flexible, versatile and rapidly deployable forces will be required. An increasingly globalised

world will see Australia's national interests embedded in many parts of the globe. The Sea Lines of Communication (SLOCs) to our north and through the Indian Ocean will remain critical to the Asia-Pacific region's economic development. In the coming decades, the Asia-Pacific region will be a centre of global economic and military expansion and modernisation. The Future Navy, as part of a joint or coalition Task Force, must be ready to respond and operate throughout our region and further afield, wherever Australia's interests lie. It must also be ready to act independently in some limited regional contingencies.

17. The requirement to exert influence on and from the sea in the littorals creates a priority for speed, responsiveness and mobility. Amphibious operations require synchronised and integrated forces. Collective training and support of amphibious operations will play an increasingly important role in the generation and projection of maritime power in the littoral.

18. The ability to operate with US forces will remain crucial to the RAN delivering effective future options to Government. The RAN will also need to be prepared to operate as an element of UN forces and ad hoc coalitions.

19. The availability of Forward Operating Bases (FOB) should not be assumed and the RAN needs to be prepared to operate at long distances from a shore support base for extended periods of time. Task Groups (TG) must have the warfighting and support capabilities required to achieve the mission embedded within them, as these capabilities may not be available from ashore.

20. Navy undertakes to be a responsible environmental steward, through implementation of management strategies, incident reporting and awareness training, as required by the Defence Environmental Policy. Key management issues including maritime pollution convention (MARPOL) compliance, impacts of underwater sound on marine life, translocation of marine pests and environmentally responsible disposal of obsolete vessels will remain the subject of public and government focus. Navy will endeavour to remain at the forefront of implementation of appropriate management strategies for these issues.

21. The sustainable management of RAN activities will avoid significant impact on commercial, residential and recreational use of the marine environment, and consequently assist in ensuring long term access to key training areas and bases.

22. Technology will provide the Future Navy with opportunities to change the way we fight, giving greater speed, precision, lethality and reach throughout the littoral. It will also present opportunities to potential adversaries. The proliferation of technology carries risks for Navy and we should be prepared to design our major systems to ensure maximum survivability and offensive effectiveness in this environment. Layered defence for major systems will be a key requirement.

23. To complete the context for the future environment, the following section summarises the key issues from the envisaged Future Organisational Environment.

FUTURE ORGANISATIONAL ENVIRONMENT
KEY ISSUES

24. To complete the environmental context for the future, we must look at the conditions which may exist within the Australian nation, our Government and the Australian Defence Organisation (ADO). The following is a precis of those domestic factors that will have the greatest impact on the Future Navy.

Demography

25. Australia's population growth is projected to slow over the next few decades, with a population of about 23 million expected in 2020. Combined with increased life expectancies, the number of retired Australians will increase as a percentage of the overall population. An increased demand for health and social security funding, a strained income tax base and an ageing workforce will be the result. The skill base resident in the Australian workforce is also expected to decline relative to demand. There will be differing expectations across future generations, particularly in the areas of lifestyle and work. Australia will continue to see urban growth, with increased funding for infrastructure improvements being required. Space to support that population growth and the requirement to maintain and develop supporting services in cities will be key issues. Improved use of space in cities will continue to include redeveloping waterfront areas to accommodate commercial and residential interests. Our population will also include increasing proportions of people from a wide range of cultural backgrounds.

The Economy

26. Continued economic growth remains critical to national prosperity. With demographic changes impacting on the Government's personal tax revenue base, there will be a strong focus on economic stimulus to generate increased tax revenue from business and commerce. The drive for profits and increased global trade will see increased usage of commercial ports, creating competition between Defence and commercial interests for port access. We can expect a continued transition from an economy dominated by resources and manufacturing to one based on resources and services. The search for fossil fuel reserves will continue and is likely to take priority over other activities that may compete for the same areas of land or ocean. More regional Free Trade Agreements (FTAs) can be expected. The resulting transformation of the economy could impact on some areas of Defence support. It is also likely that domestic economic rationalism will see the decline of Defence contractors through mergers and acquisitions, or non-profitability due to the relatively small volumes of business generated by the ADO. The shipping sector is likely to follow suit and the availability of strategic lift assets from industry will continue to be problematic when required at short notice.

Society

27. Changing public perceptions on a range of issues will impact on Government and Defence decision making. Significantly, Australians are increasingly questioning the financial and social priorities of Government, focusing on activities that do not directly and demonstrably contribute to their quality of life. There will be a greater scrutiny of Navy activities and our footprint in the community. There are no trends of an increasing number of people wanting to join the Navy and this is likely to continue. Expectations of the Navy as an employer are changing. The Sea Change program identified a number of key themes that are important to the current generation of Australians and indeed internationally; these issues are likely to remain important in the future. Geographic stability, family life, job satisfaction, the importance of education, balanced workloads, pride in their work and multiple path careers are likely to continue to feature in the mind of the coming generations. Recruiting and retention initiatives will remain critical to the Future Navy.

Government Spending

28. Education, health and social services account for over half of Government spending[3]. This will increase over the coming decades as health costs rise and demand increases due to the ageing population. On current projections, Government spending is expected to exceed revenue by about 2017. The Government will have to maintain its tax

3 Figures and statements drawn from 2002-2003 Budget paper No. 5 'Intergenerational Report 2002-2003', 14 May 2002.

base, reduce spending or, more likely, a combination of both. With taxation revenue projected to remain a constant proportion of Gross Domestic Product, Defence will be competing for funds against many other demands. In order to balance this demand and supply, Government has and will increasingly focus on finding efficiencies across a range of issues.

Defence Funding

29. Given the long range fiscal projections and social pressures facing the Government, Defence spending is likely to come under pressure. It is possible that future Defence funding will either remain static or decrease in real terms post 2016, barring a major security shock to the international system. Compounding this problem for Defence planning is rising capital equipment, personnel and operating costs. The delivery of cost-effective capability, managing major capital expenditure patterns and driving costs and inefficiencies out of Defence will be a priority. For example, the Future Navy will experience a period of block equipment obsolescence in the 2025-2030 timeframe, creating a potentially large demand within the DCP over a short period of time unless action is taken to address the problem.

Defence Organisation

30. The Force 2020[4] vision is for the ADF to transform to a seamless force to improve our warfighting capability and avoid duplication of effort. It can be expected that there will be continuing and increasing emphasis on the joint elements and processes of the ADF. While this is based on expectations of future warfighting, it also has a structural component that will have to be considered in order to examine the cost-effective delivery of capability. This could include more multi user bases and is likely to include whole of ADO administrative processes and service delivery initiatives.

31. To complete the context for the Future Navy, the following section summarises the key points from the Navy's FMOC.

4 To be replaced by 'Defence 2030' during 2006/07.

FUTURE MARITIME OPERATING CONCEPT (FMOC) 2025 - KEY THEMES

32. Plan Blue 2006 builds upon its predecessor Plan Blue - Headmark 2025 which emphasised a 'concept-led' philosophy of capability management. This is consistent with CDF's guidance in Force 2020. The Future Maritime Operating Concept 2025 (FMOC) is the ADF's long term, maritime, joint warfighting capability aspiration. The FMOC informs and guides developing capability requirements for the Future ADF in the maritime environment. To do this the FMOC defines the future warfighting problem by articulating what missions future ADF maritime forces may have to undertake, where they may be required to undertake them and the anticipated warfighting conditions under which future maritime combat operations may have to be executed.

33. The FMOC asserts that the Future Navy, acting independently or as elements of a combined force, will be required to project force and gain local sea control from home port, across open ocean SLOCs, through choke points and across the littoral. The operating concept is titled Maritime Force Projection and Control.

34. Five Maritime Capability Enablers (MCEs) underpin the ability to project force and exercise local sea control in 2025. These are: Knowledge Command and Control (KC2); Assured Engagement; Maritime Manoeuvre; Sustained Presence; and Enduring Protection. A diagrammatical representation and précis of the FMOC MCEs is at Diagram 1.

THE FMOC

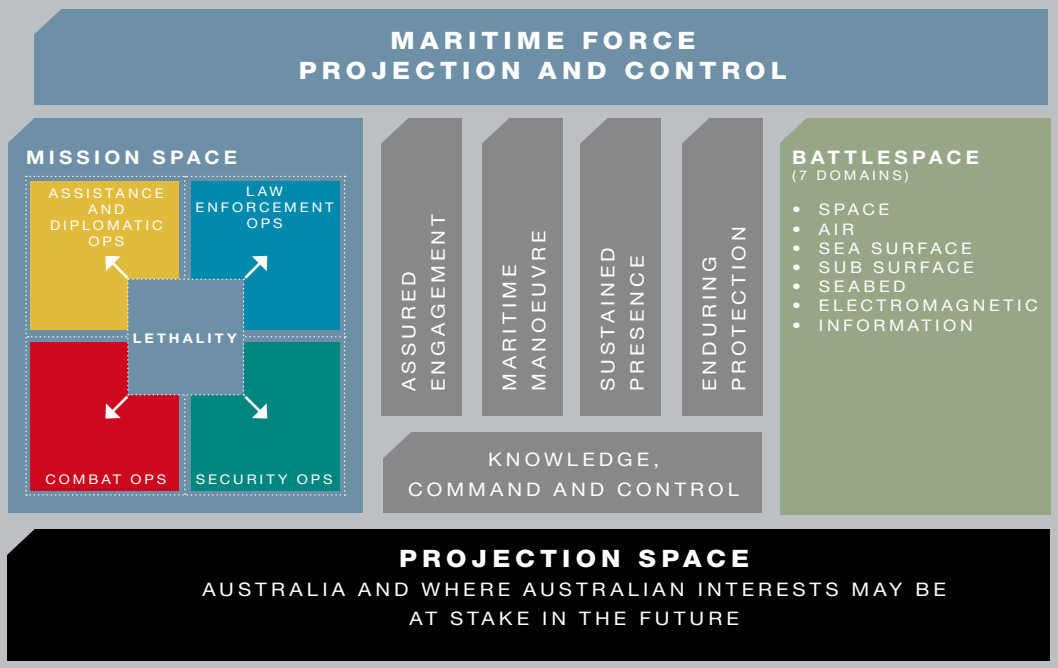


Diagram 1: The Future Maritime Operating Concept

35. **Knowledge, Command and Control (KC2)** is the exploitation of superior battlespace awareness and, through people, innovatively applying operational art and adaptive command to gain decision superiority over an adversary. The KC2 MCE aims to enable the Future Navy to make superior decisions. Without effective KC2 the capabilities delivered by the other MCEs cannot be effectively orchestrated and brought to bear to generate a fighting edge. KC2 extols enhanced situational awareness and adaptive command and control (C2) to effectively deliver future maritime combat power.

36. **Maritime Manoeuvre** is the capability of maritime forces to move freely between the open ocean and the littoral environments and to project force through exerting local sea control to facilitate the delivery of support to the joint or combined mission. The Future Navy will employ a multi-dimensional manoeuvre approach for the conduct of operations. In part, this is driven by the necessity for a small to medium combat force to achieve disproportionate effects while avoiding attrition. The manoeuvre concept is based on using an indirect approach to defeat the adversary's will and aims to destroy their ability to fight as an integral force, rather than by destroying the force through attrition. Maritime force elements that are inherently adaptable and flexible are required to conduct combat missions and be able to adapt to concurrently support other activities such as law enforcement missions.

37. **Assured Engagement** is the capability of maritime forces to decisively engage target sets across the battlespace using networked systems to provide the required responsiveness, weight of fire, precision, and assure success by employing lethal and non-lethal weapons. Assured engagement provides the means for engagement of future targets at sea, in the air and ashore across the battlespace. Future targets are expected to be more elusive, have shorter targeting exposures and require a range of tailored engagement responses when applying lethal and non-lethal force.

38. **Sustained Presence** is the ability for a joint maritime force of significant combat weight to operate for an extended period at potentially long distances from Australia. The concept is for a Joint Task Force (JTF) that can be sustained with little or no support from a Forward Operating or Mounting Base. Future logistics in support of land operations will be delivered increasingly from the sea. Ships will provide logistic presence in the maritime approaches and beyond with a subsequent reduction in footprint ashore.

39. **Enduring Protection** is the ability of each maritime force element to successfully achieve designated missions and tasks through the combined capability of defensive, staying and fighting power. It allows units to deflect attacks, absorb damage if necessary, and be able to counter attack. A small to medium sized force, such as the Future Navy, has a limited number of platforms and units it can deploy, rotate or replace. Therefore the preservation of combat power within the Future Navy is a key requirement to be able to effectively and reliably project force and exercise local sea control. Further, to achieve this objective the Future Navy must attempt to disrupt an adversary's targeting cycle at every opportunity.

40. The FMOC has broadly described the way Navy will deliver future maritime combat power as part of a joint force. Attention must now be turned to describing a Future Navy that can deliver maritime combat power as the FMOC envisages.

FUTURE NAVY

41. The environments in which the Future Navy will operate and the way it envisions it will fight have been described. The context is now set for communicating a vision of the Future Navy.

People of the Future Navy

42. People are the foundation of naval capability. Our people are masters of many disciplines and are well trained, well motivated and well led. Navy's people will continue to personify our core values maintaining our hard-earned reputation for professional excellence. The Future Navy will retain the respect and support of the community and the Government consolidating its reputation as an 'employer of choice'. As is the case today, flexible, innovative and committed people with strong team skills will form the Future Navy.

43. As technology proliferates, the equipment advantage between the ADF and potential adversaries will be increasingly hard to maintain. A fighting edge will be generated through Future Navy people being superior decision-makers, advanced mariners, having intimate knowledge of the operational art and being adept at the application of technology. Future Navy leaders will have the experience to exert influence in the joint arena, implement superior tactics in the operational or tactical arena, and be adept with the whole-of-government process. Navy leaders at all levels will also possess improved resource and business management skills. Leadership is a key tenet of a professional Future Navy and this will be reflected in a continuing commitment to education, training and experience.

44. Future Navy people will spend more time posted to sea going billets and less time in non-sea going postings, particularly during the first decade of their careers. They will be multi-skilled and the delineation between operator and maintainer will, in some areas, blur. They will be supported in their attempts to balance Navy and personal interests by flexible workforce practices and supporting initiatives that improve retention and quality of life. Technology will assist them in their day-to-day administration, training and career goals. Navy's organisation will also assist them in managing their workloads. Bureaucratic processes will be

refined to minimise personal effort and maximise benefits to Navy people. The changing national demographic towards an ageing population will likely be reflected in Navy; consequently the importance of health and fitness as a component will increase.

Future Fleet

45. The Future Fleet will be able to provide a range of responses across the Span of Maritime Tasks, that is diplomatic, constabulary or naval missions. It will be capable of projecting power above, on and under the sea and will be integral to a seamless ADF. The Future Fleet will operate with other Government agencies in both the supporting and supported roles. Advances in ship design and system reliability will increase the range, endurance and operational availability of future ships permitting a Future Navy to meet Government's requirement for a maritime force able to operate across all areas where Australia has national interests.

46. In support of Navy's KC2[5] concept, higher capacity, networked command and communication systems will be able to transmit and receive superior C2 and targeting quality data. Combined with precision and long range weapons this will allow the Future Fleet to rapidly engage targets which in turn will create greater military effects, whether it be independently, in cooperation with other ADF elements or as part of a joint or combined force. The improved data transmission capabilities of ships will allow them to host command, control and communications functions for operations afloat and ashore. Interoperability with US forces

5 Knowledge, Command and Control is the first pillar of FMOC 2025.

will remain a key driver. This leveraging of technology will give Navy greater combat weight, speed and lethality.

47. The Future Fleet will have a greater capacity to project power into the littoral regions ashore, either in support of a joint activity or independently against strategic targets as part of a broader campaign. It will have a greater capability to deliver, protect, provide offensive fire support to, logistically sustain, manoeuvre and extract forces ashore.

48. Navy platforms must continue to be flexible and multi-mission capable. Uninhabited autonomous surveillance and combat vehicles (air, surface and sub-surface) will play an increasing role. They will act as force multipliers by varying and better matching ship capability to assigned missions. Operating in the hazardous and complex littoral regions against adversaries that may have greater access to high-end military technologies, in particular missile and sub-surface equipment, will generate threats in all dimensions of the battlespace at a potentially high tempo. The Future Fleet will have layered defence systems, advanced signature management designs and systems to mitigate the risks and deliver the benefits of being able to operate in the littoral. The Future Fleet will remain a small to medium size force with a limited number of ships, so survivability will remain a key consideration. Automated systems will support the viability of the Future Navy by reducing crew sizes, balancing workloads and reducing costs.

Organisation of the Future Navy

49. The Future Fleet will need to be sustained for months at potentially great distances from Australia, often without host nation, forward operating base or coalition support. Integrated, Joint Task Groups (JTG) organised for the mission will feature in the future force. Navy and enabling organisations must be structured to provide rapid and flexible support under these conditions. Logistics, training, personnel and administration systems will support the rapid delivery of support packages to deployed fleet units operating at a high tempo in different parts of the world.

50. Technology will support innovative maintenance practices such as the real time data-linking of ship defects and maintenance advice. These technologies will improve maintenance practices and reduce costs. Distributed simulation will permit the conduct of realistic 'war games' between fleet, ADF and coalition units so that costs are reduced, collective training is improved and the available sea time is used more for operations and less for training. Similarly, distributed learning systems and web-based administration systems will be supporting Navy people at sea and will have lowered the cost of Navy's business.

51. Navy's organisation will reflect the integrated nature of ADF operations, with linkages and processes that ensure Navy is contributing to and being supported by the ADO. Navy's reliance on the Defence Science and Technology Organisation (DSTO) for advice and support across a range of combat and administrative systems technologies will increase as systems are further automated and their complexity grows. Navy's basing will be optimised to ensure the effective delivery of maritime capability and fleet bases will be supported by proximate exercise areas and live weapons practice ranges. Navy's shore footprint will be smaller reflecting cost efficiencies, a reduced impact on the community and innovative crewing, support and training systems while balancing retention and quality of life issues. Supporting organisations will be playing a large role in the continued reduction in the cost of ownership of Navy systems.

52. The following chapters examine issues in each Fundamental Inputs to Capability (FIC) articulating the goals to be achieved in order to realise the vision of the Future Navy.

FUNDAMENTAL INPUTS TO CAPABILITY

PEOPLE[6]

FUTURE NAVY GOALS

53a. Recruit, develop and retain high quality people for the Navy.

b. The delivery of quality training and education must align with the expectations of Future Navy people and future employment requirements at sea and ashore. The individual readiness of people must be maintained

c. Conditions of service and Navy's organisation and administrative procedures must reflect increased societal expectations and ensure balance is maintained between career, family and an individual's private interests. [7]

d. Future Navy leaders must be highly competent business managers.

Guidance

54. **Career Navy.** The Future Navy faces increasing competition from the private and public sectors for a decreasing number of skilled and talented young people. Navy must be considered as an employer of choice to recruit and retain talented people in the future. Navy must ensure that it is a career option for all Australians across the increasingly wide range of age groups and cultures that will make up the population in the coming decades. Flexible entry and re-entry processes are required to recruit people who have commenced their working life in other sectors of the work force and to regain trained Navy people who have chosen to break their naval careers. The acknowledgment of relevant civilian skills and experience through pay and/or rank will be required, as will the ability to offer employment flexibility such as combinations of full and part-time employment.

55. **Smarter Navy.** Continuous education remains the key to providing Navy's future people with the skills to operate effectively in complex security and organisational environments. Navy leaders will have to be able to perform in joint positions as the role of joint agencies in the administration and conduct of Defence activities continues to grow. Navy's through-career education and training must adapt to changes in our demographic environment. The individual levels of training and education will have to

increase with an emphasis on leadership, decision making, the application of technology and the operational art. The delivery of this training and education must be consistent with other strategic themes to train cost-effectively, reduce time away from home and leverage flexible training delivery methodologies, such as e-learning. The appropriate use of simulation in individual training will enhance individual capabilities, save resources and reduce risk. The individual readiness of Navy people should be maintained as a priority within this flexible training system.

56. **Conditions of Service.** The demands of sea postings will need to be balanced against the desire to attend to personal matters and career issues when in home port.

6 The People FIC includes the skills and competencies, individual readiness, training and education of Navy's people. Retention, Recruiting and conditions of service issues also fall within this FIC.

7 See Society section of Future Organisational Environment Chapter.

Alternate crewing strategies and flexible training delivery methodologies are ways of addressing this balance. For example, career advancement courses, Navy-sponsored higher education and some personal readiness elements of work-up training might be done from home. These types of initiatives should complement and build upon the innovative crewing and administrative retention strategies of Sea Change. The way Navy runs duty routines, fuels, maintains and stores ships in home port may also generate options for relieving personnel of duties to spend more time at home.

57. **Personnel Management.** Innovative Personnel Management initiatives must be implemented so that high future operational tempo and operational availability for future ships do not overburden our people. The use of technology to streamline and automate business processes must make it easier and faster for Navy people to administer their careers, while retaining face-to-face access with their career managers. Network access for all Navy people and appropriate early career training is required to support this process.

58. **Business Management.** Costs must continue to be driven down in all areas of Navy's business while balancing the requirements to retain our people, balance workloads and maintain operational capability. The future fiscal environment will require Navy leaders to have improved business and resource management skills, which will include an understanding of the relevant tools and decision making support systems. Savings will have to be made in Navy's personnel costs while balancing the need to attract people to Navy careers. It is likely the Future Navy will have incrementally fewer people; the key will be to ensure they have better conditions of service and a manageable workload.

FUNDAMENTAL INPUTS TO CAPABILITY
MAJOR SYSTEMS[8]

FUTURE NAVY GOALS

59a. The Future Navy must comprise a fleet of adaptable, flexible multi-mission platforms.

b. The Future Navy must possess survivability through layered defence systems, signature management, platform robustness and system redundancy.

c. The Future Navy must be capable of operating effectively in the absence of continuous land-based, air-delivered capabilities and logistic support, or accept operational risk in these circumstances. Navy must be able to sustain itself and support joint or combined forces for the required operational viability periods from the sea. Navy must have the capability for sustained presence in the maritime areas of the littoral.

d. The Future Navy must be able to exchange C2 and targeting information within a joint and coalition environment. Navy must acquire precision weapons to complement increased knowledge and command and control capabilities to achieve an assured engagement capability.

e. The Future Navy must possess the Command, Control, Communications and Computers (C4) capabilities required to maintain interoperability with coalition forces in the future. This is particularly the case when operating with US forces.

f. The potential for block platform obsolescence in the period 2025-30 to generate potentially large capability gaps must be addressed by 2015.

g. The Future Navy, supported by enabling organisations, must ensure the cost effectiveness of through-life support for our major systems.

Guidance

60. **Multi-Mission Platforms.** The Future Navy is best served by a fleet of adaptable, flexible, multi-mission systems with maximised combat power that can collectively exert local area sea control in multi-threat environments. Uninhabited autonomous vehicles must play a greater role in the future, generating even greater flexibility. Ships, submarines and aircraft must be designed with open platform and system architectures offering the flexibility for modification through life. Larger platforms should be acquired for their ability to operate with greater range, endurance, resilience and survivability, and as they are more cost effective to adapt or modify. The through-life cost of ownership in operating costs must be considered in these acquisitions.

61. **Layered and Multi-Dimensional Defence.** The Future Navy must adopt a layered and multi-dimensional defensive strategy to effectively deal with a complex littoral threat environment. This strategy must include the ability to prepare the battlespace through advance force operations including Military geospatial information and reconnaissance, surveillance and intelligence. Every platform must have a minimum level of self-defence within the umbrella of group and force defensive layers for maximum survivability This requires a combination of integrated systems to perform the functions of Counter-Detection, Counter-Targeting, Detection, Classification, Identification, Engagement, and Counter-Engagement. To fully exploit the effectiveness of expensive sensors, weapons and countermeasures systems, platforms must incorporate signature reduction technologies such

8 Major Systems are those costing more than A$1m and/or have significant defence policy or joint implications. This includes ships, submarines, aircraft, missile systems, target systems and major electronic systems.

as stealth design, radar absorbent materials and acoustic signature management systems. These systems are most effectively incorporated during design and build. Integral to a small force's concept of manoeuvre is the notion of deception. The Future Navy must pursue a strategy to develop systems to complicate an adversary's targeting picture, such as a common emitters across all surface and sub-surface platforms. This strategy also generates benefits through training, maintenance and logistic support efficiencies.

62. **Network-Centric Power Projection.** The Future Navy will continue to require global reach. Navy must be prepared to operate without a FOB either due to lack of access or a lack of infrastructure. The capability to strike land targets must be a key area of consideration. The Air Warfare Destroyer will form the command and control building block around which the Future Navy's KC2 systems will be grown. All future Navy major fleet unit combat systems must be interoperable with the Air Warfare Destroyer to ensure Navy benefits from network-centric concepts and achieves the goals set out under the KC2 pillar of the FMOC. Further, the Future Fleet's KC2 systems must be connected to relevant Air Force and Army battlefield systems and meet joint networking standards. Transition to open architectures in the short term is a key initiative so that the long-term benefits of increasing computing power can be obtained. Current high levels of systems interoperability with US forces will remain a priority, in particular through AWD's KC2 systems and the Aegis combat system.

63. **Block Obsolescence**. Navy must take action to spread the planned withdrawal dates of major systems to mitigate the funding risks associated with a period of block obsolescence. To achieve this Navy must task DSTO and DMO to investigate major systems and assess their cost-effective service life. This analysis must then be fed into the capability development process to mitigate the effects of block obsolescence.

64. **Reducing the Cost of Ownership.** A number of strategies must be pursued to reduce the cost of ownership of Major Systems. These include reductions in Ships' companies, automation of ship systems, common systems across platforms and common platforms. These strategies will need to generate logistic, maintenance and training efficiencies. Commercial-off-the-shelf and military-off-the-shelf strategies must be considered for each acquisition in an attempt to drive down acquisition costs and the costs of ownership. DSTO will continue to play a major role in assisting DMO and Navy to develop innovative methods of minimising the cost of ownership of our major systems.

65. The broad capability guidance above, subsequent capability gap analysis and the major systems strategies discussed must be incorporated into the capability process through Navy Force Structure Strategic Guidance (NFSSG), and the Defence Capability Plan (DCP) and be implemented through Plan Green and The Navy Strategy - Charting the Course to 2025.

FUNDAMENTAL INPUTS TO CAPABILITY

SUPPLIES[9]

FUTURE NAVY GOALS

66a. Future logistics systems must support deployed forces across a wide range of missions, in a range of threat environments at potentially long distances from Australia.

b. Future Navy ships must be able to receive and respond to requests for logistic support from joint and coalition forces ashore. Future logistic systems must be able to effectively operate in fully operable and degraded modes using less people.

c. The risks associated with the supply of Future Navy equipment by foreign Original Equipment Manufacturers (OEMs) must be understood and where practicable mitigated via supply chain initiatives.

d. Future logistic systems must contribute to the control of Navy's operating costs. The supply chain must be shortened and inventories reduced.

67. **Deployed Sustainment.** The future logistics system must remain capable of supporting a Joint Task Force (JTF) at potentially long distances from Australia. This must be achieved not only when a FOB and host nation logistic services are available, but also in the more complex circumstances where such bases are not available and forces ashore are being logistically supported from the sea. Systems that are interoperable with key allies and compatible with coalition operations will be a continuing requirement. Delivery systems must be able to generate the required operational tempo from the sources of supply, whether these are in Australia or overseas, to the Area of Operations (AO). When FOBs are available, the logistics system must be able to rapidly draw upon the logistic support services resident in a host nation and integrate them within the ADF's logistics system. However, past operations have demonstrated the fragility of depending upon a host nation to mount operations, thus future logistics systems must also be able to support deployed operations when a proximate FOB is not available. That is, logistic systems must be able to sustain a force fighting from the sea.

68. Such support could take the form of unique methods of storage so that the supplies required for the operational viability period can be carried within a Task Group (TG). Alternatively innovative delivery systems, possibly involving high-speed sealift or air dropping supplies into the sea for recovery by the TG, may be developed. It is likely that at-sea cargo storage and handling systems will be increasingly required to carry, identify and transfer supplies within and between the future JTF.

69. **Interoperable Logistic Systems.** The Future Navy must have a common logistics system that is transparent from shore to ship to the deployed AO, across the ADF and capable of integration with coalition logistics systems. The logistics system is to be fully networked to ensure there is an increased level of situational awareness to allow the network to deliver the stores to the end user. Navy must be able to make intelligent resource allocation decisions within all parts of the delivery system, from manufacturer through the warehouse to the Fleet. The Future Navy will be required to respond to logistic support requests from forces ashore. Navy and land force combat support elements at sea must have visibility of the land force's supplies and demands for resupply. Tracking the loading and storage of supported land and air forces' supplies will be an added complexity for the logistics system, particularly within the future amphibious and support ship classes.

70. The Future Navy, most likely through the use of Landing Helicopter Dock class ships, will conduct deployed

9 Supplies includes the 11 NATO classes of supplies including warehousing and reserves. For the purposes of this document, supplies also includes the logistic systems from acquisition of supplies, through warehousing and delivery systems to the end user.

operations in support of the nation's wider interests as part of an allied or coalition force. High levels of interoperability with key allied partners and the ability to operate with a broader range of coalition partners will be required. The connectivity and data transmission technologies that should be generated by network centric operations may provide opportunities to improve logistic systems.

71. **Risks in OEM and Allied Logistic Support.** The Future Navy will continue to depend on foreign OEMs for spares support for future platforms and weapon systems. Risk mitigation strategies must be in place to guard against a disruption to OEM supplies that could create a significant operational impact. For example, reserve stockholdings could be varied to mitigate this risk.

72. Although a desired aim, leveraging allied logistic support systems when deployed may not always be an option. Either high-risk supplies must be embedded within the deployed TG, or effective logistic systems developed to deliver the required supplies to the deployed warfighter in the area of operations. A potentially increased dependence on contractors to deliver supplies in combat zones also generates legal and operational risks that must be addressed. Key logistic system activities and functions that are high risk must be identified. Further discussion on the risks associated with contracted and OEM services is contained within the Support FIC.

73. **A Cost-Effective Supply Chain.** The logistic system must contribute to the cost effectiveness of operating the Future Navy, including an ability to improve accuracy and completeness of logistic data, reduce stockholdings, shorten supply chains, increase the use of common supplies and systems and determine the most appropriate use of contractors. Initiatives to contract out logistic services must balance issues such as the employment of contractors in combat zones. In doing so, the logistic system will have to meet demanding corporate governance standards.

FUNDAMENTAL INPUTS TO CAPABILITY SUPPORT[10]

FUTURE NAVY GOALS

74a. The Future Navy must work with Government and industry to implement initiatives aimed at addressing the current and future problem of skilled work force shortages.

b. Future support arrangements must address the operational risks presented by the likely increased use of contractors to deliver support services.

c. Support initiatives must contribute to the reduction of the cost of ownership and operation of Navy's major systems.

Guidance

75. **Engaging Industry.** Navy must engage with industry so that its support needs are understood, particularly those that are crucial to the delivery of future capability. Navy should attempt to ensure that any rationalisation of Defence industry does not result in a national support base that can not meet future capability delivery and sustainment requirements. This is particularly important where rationalisation results in foreign ownership of key defence contractors.

76. Navy and industry, with Government support, must collaborate to address the current and future skilled workforce shortage. The flexible movement of people between Navy and defence industry should be supported, including initiatives such as an increased opportunity for industry people to become Navy Reservists. Navy and defence industry could also collaborate in the expression of the sector's future skills needs to educational institutions. DSTO should play a central role in the collaborative maintenance of key skills and capabilities in the defence sector, particularly in advanced technologies.

77. **Retention, Integration, Reachback or Reachout.** The Future Navy must determine the best methods under which support is delivered to deployed forces. The choices are either:

a. retain the support capability within the uniformed element of a deployed force or the wider ADO;

b. integrate contracted support into the deployed force;

c. reach back to Australia, neighbouring units, other force support assets or the national or international support base;

d. reach out for alternative support arrangements through local purchase from neighbouring sources and forces, coalition arrangements, contracts within the area of operations, or implementing arrangements with other nations.

78. These decisions will need to be carefully balanced against operational requirements, such as the speed that the support is required and how critical the support is to the mission.

79. Navy must ensure that future support requirements are clearly articulated to our enabling organisations. It must be anticipated when overseas OEM host governments may not support ADF activities, and place limitations on the delivery of supplies and contracted support. Identifying critical logistic and support capabilities that are not available from within the Australian support base as part of the procurement process mitigates against this supply risk. The additional costs that could be incurred must be assessed

10 Support refers to the national support base that supports Navy's activities and includes ship building and repair, technology and defence industry support, research and development support, administrative support, training, transport and contractor support from outside the ADO.

against operational risk in light of the requirement to control costs across the organisation.

80. **Cost Control in Support.** Navy must look at a range of initiatives to control the cost of supporting operations. These may include data-linking maintenance requirements information directly to a contractor to permit them to build ship maintenance packages, buy stores and shape the workforce 'just in time', reducing the cost and length of maintenance periods.

81. It is understood that many of the supporting services that have been discussed above and in the Supplies FIC are the purview of enabling organisations such as DMO and Defence Support Group. However, guidance is articulated with a view to informing enabling organisations of the issues Navy foresees and where Navy's priorities may lie in addressing those issues.

FUNDAMENTAL INPUTS TO CAPABILITY

FACILITIES[11]

FUTURE NAVY GOALS

82a. The Future Navy's delivery of operational capability must be assured by the availability of fleet bases, proximate offshore exercise areas and firing ranges in each of Navy's key basing locations in the east, the west and in northern Australia.

b. The Future Navy must aim to limit the impact that Navy activities on bases and ranges have on the local community.

c. Future basing and exercise area decisions must take into account potential personnel, training, maintenance and support initiatives which may change demands on Navy's shore infrastructure.

d. The Future Navy must ensure access to ports at home and abroad where there is not an RAN or allied fleet base.

e. The Future Navy must comply with environmental legislation to protect its reputation and maintain access to crucial exercise and training areas.

f. The Future Navy must find maximum efficiencies in its disposition to reduce the cost of ownership of bases and offshore ranges to Defence.

Guidance

83. **Fleet Bases.** The Future Navy must optimise its use of existing bases, including joint use where appropriate, to limit its shore footprint and minimise cost and community impact. The location and disposition of Navy's infrastructure will impact, to some extent, on Navy's attractiveness as an employer of choice. Future basing decisions must take into account potential personnel, training, maintenance and support initiatives which may change demands on Navy's shore infrastructure. For example, initiatives could include: multiple crewing, fly-in/fly-out crewing, distributed simulation for weapons and fleet practices, web-based self-service personnel administrative support systems, totally contracted ships maintenance, resupply and fuelling services, and new methods of delivering logistic support.

84. Navy will retain HMAS Kuttabul/Garden Island/Fleet Base East, HMAS Waterhen and HMAS Albatross as they are crucial to the delivery of capability. The naval and civil infrastructure and the extensive contractor and civil support network cannot be replicated elsewhere on the East Coast. In Sydney, urban encroachment is largely complete and is no longer a significant issue. There may be potential for future cost savings and minimising community impact by rationalising Fleet activities and transferring further functions to Garden Island, including those required to support new Sydney-based platforms.

85. Fleet Base West/HMAS Stirling will be Navy's principal base in the West, in accordance with Government's two-ocean policy. There may be some potential to relocate a limited number of shore-based support elements to the West to improve geographic stability for some members.

86. Future Navy requirements in Darwin warrant early consideration to secure long-term access and an appropriate level of support for maritime operations across Australia's northern approaches. Any requirement for new naval facilities in Darwin and Cairns will be to meet the needs of the next generation patrol vessels (post-ACPB), and could involve

11 Facilities includes bases, property, buildings, structures, plant and equipment, exercise areas, firing ranges, utilities and civil engineering works at home and abroad, owned or leased by Defence.

further re-development of HMAS Cairns and the current Coonawarra/Larrakeyah site. There is currently no strategic imperative to base Major Fleet Units in the north or to establish a new Fleet Base North. In the longer term, further initiatives in ship repair and maintenance and increased ship operational availability, combined with crewing initiatives, may provide an opportunity to reduce Navy maintenance and hotel services infrastructure requirements within Fleet bases.

87. **Ranges, Offshore Exercise Areas and Naval Waters.** There remains a requirement to conduct realistic, at-sea exercises and weapons firings and shore based weapons firing training. Navy training must be conducted under the most realistic combat conditions possible. The Eastern Australia Exercise Area (EAXA), Western Australia Exercise Area (WAXA) and the North Australia Exercise Area (NAXA) will remain critical to the long-term delivery of Navy capability. Navy must develop long-term management plans for offshore exercise areas to ensure environmental compliance and the accommodation of civil users where necessary.

88. Beecroft, Lancelin, and Townsend Island ranges will remain critical to Navy. However, with improvements in automation, simulation, system built-in tests and significant developments in naval gunfire and missile system capability and reliability, the utilisation of land ranges may reduce in the long-term. The long term role of West Head Gunnery Range will depend on the feasibility of future medium calibre gunnery training being met by simulation and live firings at sea. Navy will need to critically examine land bombardment range requirements accordingly while balancing the requirement to conduct single service and joint collective training under the realistic conditions that live firings create. Navy is not the only user of these ranges and any review must involve the other Services, appropriate enabling organisations and possibly allied range users.

89. Navy must continually examine its requirements for declaration and activation of Naval Waters, ensuring that they are the minimum required for the safe and secure operation of the Fleet.

90. **Training Infrastructure Rationalisation.** Navy's future training infrastructure ashore must aim to optimise utilisation of bases in order to reduce our shore footprint and maximise co-location with ship's home-porting where practicable. The following factors will be critical: retaining synergies between training activities; maintaining access to the waterfront for trainees; the potential savings to be derived from advanced training systems; minimising the cost of ownership of bases; trainee travel and staff removal costs; and, the potential impact of base dispositions on recruiting and retention. Navy's requirements continue to include the need to retain, in their present locations, the vital training and support functions performed by HMAS Cerberus, Creswell, Harman, Watson and Penguin, plus the ammunitioning wharf and facilities at Eden.

91. **Commercial Port Access.** Commercial development will impact on Navy's access to port facilities. Australia's seaborne trade is increasing in both quantity and volume, reflecting an overall global increase. This is placing demands on the ship building industry to build more and larger ships, with a resultant need for further development of some ports to accommodate these new vessels. Port infrastructure planning is based on current and future demands of commercial shipping and trade; Navy's infrastructure requirements are not considered in the port plans, which extend to 25 years and beyond. This increased demand for access by commercial vessels, and their changing infrastructure requirements, means that access for naval ships will become more difficult and potentially more expensive to obtain in some locations. The long-term access to facilities in ports without Fleet bases is critical to the ongoing delivery of Navy capability and Navy's support to the other Services, particularly Army. In the face of increasing commercial and urban pressure, access to critical ports such as Townsville, Darwin and Dampier must be maintained or developed where required. Navy and enabling organisations must remain engaged with port authorities to articulate those issues critical to the defence of our nation.

92. **Environmental compliance.** Environmental and legal compliance on and offshore will increasingly impact on Navy's operations and exercise activities, particularly those involving concentrated use of bombing/gunfire support ranges and offshore exercise areas. Navy will also face increasing intrusion from commercial oil/gas and mineral interests, which will often attract a higher national priority. This will require a greater focus on cohabitation to meet Navy's exercise requirements.

FUNDAMENTAL INPUTS TO CAPABILITY ORGANISATION[12]

FUTURE NAVY GOALS

93a. The Future Navy workforce structure must incorporate innovative crewing strategies, cost-saving initiatives, an increasingly competitive recruiting and retention environment, and the increased use of contracted services.

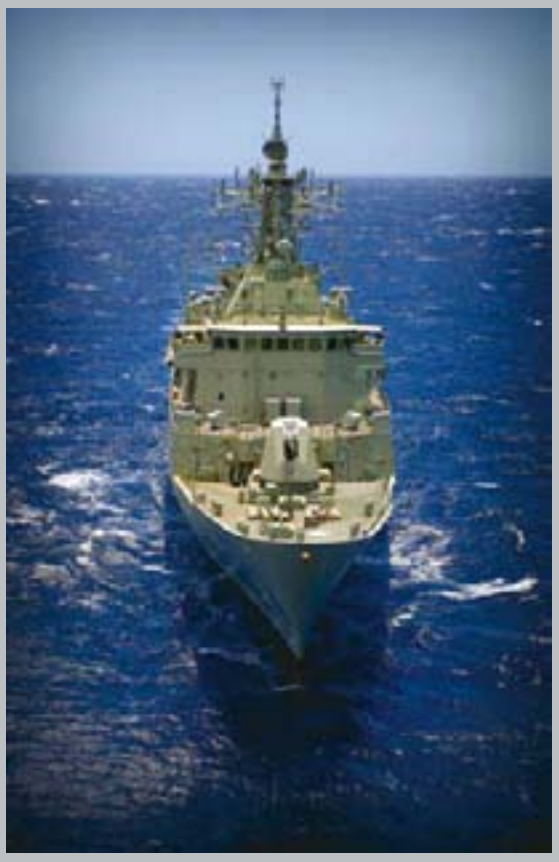
b. The Future Navy command and control structures must reflect the FMOC's vision of scalable Task Groups as the basis of warfighting capability in the future.

c. The Future Navy must be positioned to effectively contribute to the command of joint and combined operations. Simplicity of organisational structures must remain a focus.

Guidance

94. **Workforce Structure.** Navy must adopt a Total Workforce Concept. The Permanent Navy (PN), Navy Reserves (NR), Defence civilians and, to some extent, key defence contractors must be viewed as one force that forms Navy's total people capability. The role of Reserves to surge capability will become increasingly significant. Civilian personnel will continue to play an important role in releasing PN members so they can focus on warfighting. The Australian Naval Cadets will continue to play a significant role in linking Navy to the broader community and helping to attract potential recruits to the PN and NR. The employment of civilian defence members will also contribute to the control of Navy's costs. Further, contractors will increasingly deliver key support services to Navy and may be required to deploy with Navy units into areas of operation. As part of a balanced ADF there will be an increased requirement for other ADF members to deploy on Navy ships when the capability is not resident in Navy.

95. The flexible movement of people between the PN, NR and defence industry should be supported, including initiatives such as an increased opportunity for industry people to become Navy Reservists. A Total Workforce Concept must also reflect the sea-going nature of naval service and new crewing strategies. These crewing strategies will require amendments to Navy's organisational structure and scheme of complement changes.



12 Organisation includes Navy's scheme of complement (the right number of people and an appropriate balance of skills and competencies) and the correct organisational structure to accomplish tasks and effect command and control of the Navy.

96. **Command and Control Structures.** Navy's structure must evolve to ensure the effective delivery of combat power as articulated in the FMOC, namely flexible Joint Task Forces (JTFs). The Force Element Group and surface, amphibious and mine warfare Task Group commander arrangements may require review in the longer term. The continued development of joint command arrangements will require changes to Navy's structure so that Navy can effectively contribute to the command of JTFs. Similar considerations apply to the contribution to coalition Task Groups and Task Forces.

97. **Support Structures.** The support elements of Navy's organisational structure must evolve so that enabling and supporting services can be delivered in an increasingly joint ADO. Areas that are likely to be considered for further increases in joint responsibility include logistics, strategy and concepts, capability development, administration and operational headquarters arrangements. Initiatives such as more contracting arrangements and increased commonality across Navy and ADF major systems may lead to increased efficiency and serve to amend some support structures.

98. In Navy's future structure it is likely that significant elements of the workforce will be allocated to joint organisations. Effective career and command arrangements must be in place to ensure that initiatives within the Organisation FIC make a contribution to the retention of Navy people, particularly when they are serving in joint and enabling organisations.

FUNDAMENTAL INPUTS TO CAPABILITY
COMMAND AND MANAGEMENT[13]

FUTURE NAVY GOALS

99a. Navy's future business and administrative processes must enable our people to administer their Navy lives, contributing to increased productivity and retention.

b. The Future Navy must develop doctrine and procedures that ensure joint command and management processes reflect the unique requirements of a sea-going force.

c. The Future Navy must adopt command and management processes that release personnel from administrative tasks for combat roles.

d. Future command and management process initiatives must contribute to the lowering of Navy's operating costs and comply with corporate governance and regulatory requirements.

Guidance

100. **Business Process Innovation.** Navy's future business and administrative processes must enable our people to administer their Navy lives in a way that contribute to increased productivity and retention. This must also reflect an incrementally smaller number of people to support these processes, particularly ashore at a junior level. Leaders at sea often have to think quickly and innovatively to solve rapidly developing problems within severe resource constraints. This thinking needs to be brought ashore. Innovation in business and administrative processes will be crucial to the development of an organisational culture that supports effective operations in the complex, resource constrained future environment.

101. **Doctrine.** Future warfighting concepts and observed trends both indicate the need to fight as Joint Task Forces (JTF) to achieve efficient military effects. Effective operations must also be achieved under coalition frameworks. As has been the case in recent times, in the future it is likely that JTFs and Combined or Coalition JTFs will need to be formed rapidly. To minimise work-up times and maximise the combined effectiveness of task forces, robust and up-to-date doctrine will be required. Navy must concentrate now and in the future on developing Tactics, Techniques and Procedures (TTP's) that reflect a joint approach to warfighting. Our doctrine must also remain interoperable with our Allies, and where practicable, compatible with coalition partners. Emerging concepts such as network-centric operations and the delivery and support of joint combat power from the sea (ie. variants of sea-basing), emerging technologies entering the RAN inventory such as phased-array radar systems and extended range weapon systems will drive changes to Navy's doctrine. Wargaming and experimentation will be required to develop TTPs in anticipation of the arrival of these new systems. With the technological equipment edge narrowing, the application of technology through the superior combination of systems and doctrine will be key to fighting and winning in the future maritime environment.

102. **Command and Management Processes Supporting People Capability.** Navy must evolve our bureaucratic processes to enable the war fighter. Our processes and supporting information technology systems must make life easier for future Navy people, control their workloads and be developed in recognition that it is likely there will be incrementally less people to support our organisational processes. Command and management processes and

13 Command and management underpins Navy's operating and management environments and focuses on those supporting processes and guidance that are the foundation of Navy's day to day administration and decision making. It includes doctrine, tactics, techniques and procedures and preparedness documents. Those processes necessary to plan, measure and monitor the activities of Navy. It also includes risk management and other written guidance such as regulations and orders. For the purposes of this document it also includes safety programs, equity and diversity and corporate governance.

systems must release personnel from administrative tasks for combat roles, this being particularly important at the junior levels. These processes and systems must support complementary strategies within the other FICs, such as providing options for flexible employment strategies. In this way command and management processes and systems will improve Navy's working conditions and contribute to the retention of personnel.

103. **Coordination, Compliance and Cost Minimisation.** Navy's internal processes must reflect the ADF's joint approach to fighting, organisation and administration. Within this arrangement, the Future Navy must ensure that we anticipate and articulate the support requirements of a seaborne force, and that joint systems support Navy initiatives and strategies within the other FICs. The increased data transmission capability and connectivity that should be delivered as a result of a network-centric approach to warfare has significant potential to generate improvements in command and management systems. This will be particularly important in support of the Fleet at sea. The number and complexity of business processes must be minimised. The current rate of acceleration of compliance costs in terms of numbers of people and workloads will be unsustainable in the future. Future data capture and reporting systems must control compliance costs. Across Navy, administration must be minimised and where possible automated, to decrease costs and the demand for personnel within corporate compliance and administration processes.

FUNDAMENTAL INPUTS TO CAPABILITY
COLLECTIVE TRAINING[14]

FUTURE NAVY GOALS

104a. The Future Navy must exploit simulation in training to enhance its capabilities, save resources and reduce risk.

b. Future collective training must incorporate increased automation, changes in technology and alternative crewing strategies.

c. Future collective training must be flexible enough to deal with a geographically dispersed task group required to be worked up and assessed individually and collectively, potentially with shortened warning times.

d. Future collective training must factor in the generation of improved procedures for the application of technology across the joint force.

e. Future collective training strategies must contribute to reducing the costs of operations, with preparedness focussed to ensure the elimination of waste while maintaining an appropriate level of readiness.

Guidance

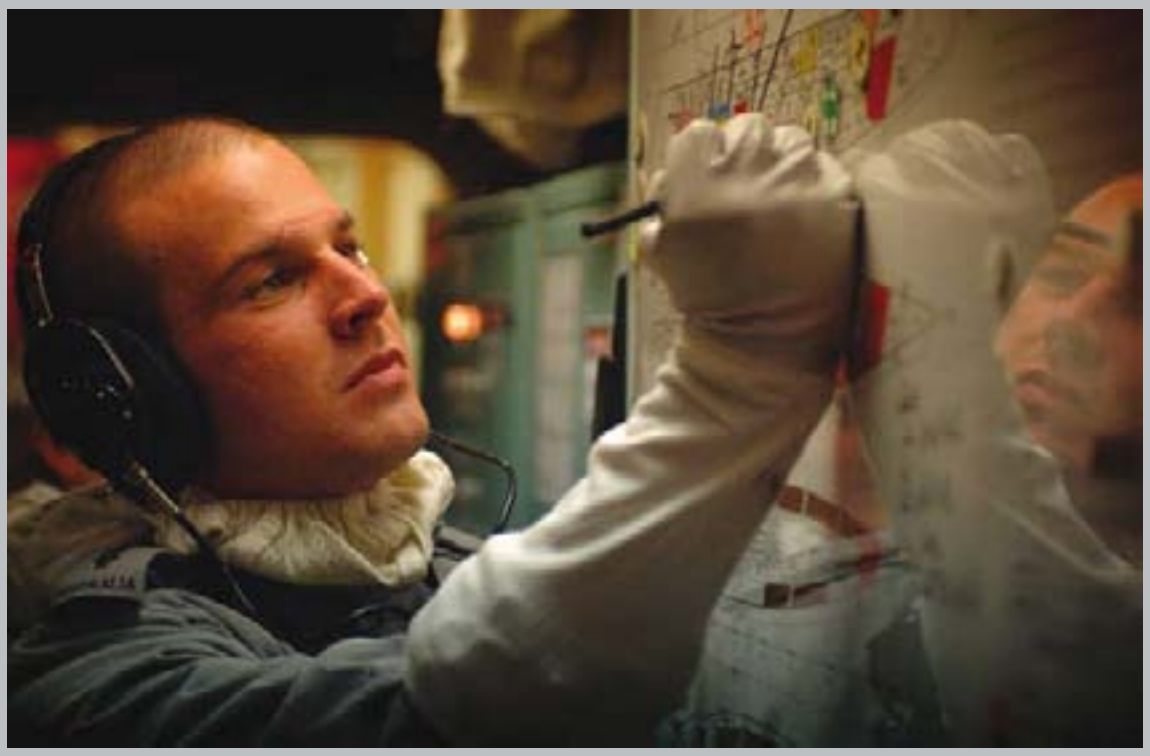
105. **Simulation.** Ongoing improvements in communications capabilities and simulation architectures generate the opportunity to employ distributed simulation techniques to support compressing TG and JTF work-up cycles. These systems contribute to significant savings vice real platforms. Equally the ability to expose personnel to more concentrated and focussed training saves time. This will reduce the time needed to aggregate a JTF and lead to a more capable force. For example it is now technically possible to link a ship's operations room to a helicopter and maritime patrol aircraft simulator for the conduct of an anti-submarine warfare exercise. This then generates additional capacity for time at sea to be committed to the validation of readiness levels, the conduct of operations and those training evolutions that are not suited to the simulated environment. While the costs of simulation are normally borne early, the life cycle savings for capability are very significant and any measure of expenditure on simulation should be offset against this. Allowing mission rehearsal and the practicing of TTP's will directly increase the effectiveness of deployed forces and ensure they are always as prepared as possible.

106. Distributed simulation can also support more efficient training for joint operations by linking elements of the intended JTF and then running simulations using real world combat systems. Not only would simulation permit the exercise of tactical procedures and command and control, it would also assist in the early development and improvement of TF operating procedures. Distributed simulation has the potential to improve the application of technology across the joint force. It could also support the early identification of interoperability issues between elements of a JTF that may be running different software in their command and combat systems; this will be a critical factor in a networked force.

14 Collective training encompasses ship, task group, joint and combined training and the meeting of preparedness requirements.

107. **Whole Ship Readiness.** Ensuring that a ship's company is at an appropriate level of individual and collective readiness will increase in complexity. Future whole-ship training and readiness assessment systems must account for future crewing initiatives that might include multi-crewing or flexi-crewing. These systems will have to draw crew members who may not be at sea, into the ship work-up and assessment continuum. They will also have to address the work-up of crews that are due to go to sea. A potential strategy may be shore-based training facilities being networked into a ship at sea so shore-based crew members can participate in some ship evolutions. Rigorous adherence to standard operating procedures will be required so that crew members can easily move between the shore and ship with minimal settling in times. Ensuring the whole ship's company are included will also be key to ship's morale and departmental team performances. Training and readiness systems will also have to account for an increased number of human-machine interfaces and the ability of a ship's company to manage automated systems and integrate automated systems outcomes into command-team decision making.

108. **Combined Operations.** Coalition operations generate complex collective training and interoperability issues. Initiatives such as the Joint Combined Training Centre (JCTC) are an example and must become a mandated capability to utilise simulation in advance of and support to major coalition initiatives. A layered approach is required with maximum interoperability and joint training being focused on the US and traditional allies. Interoperability and training regimes then need to be stepped down as the likelihood of conducting operations with those forces decreases. The readiness of a coalition TG is likely to rely upon well-developed procedures and individually prepared units. Distributed simulation will play a role with some allies, notably the US. Broadening combined exercises to ensure familiarity with likely coalition partners and subscribing to coalition procedural documents will reduce collective training and interoperability risks.



NAVY STRATEGY TO 2025

Toward the Future Navy

109. To be able to deliver effective response options to Government it is critical that Navy continues to evolve to meet future challenges. To take this evolutionary path, decisions must be made with an eye to where Navy needs to be in the future. Continuous, incremental improvements must be made throughout Navy. The future we desire will be achieved through the leaders of today.

Navy Innovation Strategy

110. The Navy Innovation Strategy (NIS) is integral to the evolution of the Navy. The NIS process is designed to guide capability development efforts and make sure ideas are encouraged, tested and the results analysed. This ensures that the best elements of ideas are adopted and those not suitable are discarded. The starting point is the Future Maritime Operating Concept 2025 (FMOC 2025) endorsed by COSC in December 2005, which describes the way Navy will deliver maritime combat power as part of a joint or combined force in the future. Plan Blue 2006 then provides strategic guidance for development of a Future Navy that is capable of delivering the combat power conceived of in the FMOC. How Navy achieves the goals in Plan Blue 2006 will be articulated in Navy Force Structure Strategic Guidance (NFSSG), Plan Green and a new follow on strategy, The Navy Strategy - Charting the Course to 2025. The NIS is described in Diagram 2.

Maritime Experimentation Program (MEP)

111. The MEP is the Navy's premier experimentation process undertaken in support of Navy's future interests. The focal point of the MEP is the '2 Year Offset Experimentation Cycle'. The experiments in this cycle are known as the Headmark series and are widely known as the Navy's primary experimental program. The testing of the FMOC lies at the core of the Headmark experimentation campaign. Navy Futures is tasked with experimenting against the FMOC in order to validate or otherwise maritime warfighting concepts and inform future capability development. The MEP is conducted by Navy Futures in partnership with DSTO-MOD and has strong links to the Army Headline and RAAF Headway series of experiments.

Implementation - Navy Force Structure Strategic Guidance, Plan Green and Navy Strategy 2025

112. While Plan Blue 2006 examines the rationale (the why) for future capabilities (the what), the implementation of this strategy (the how) to achieve the goals in the Plan Blue 2006 vision will be through Plan Green and a new follow on strategy, The Navy Strategy - Charting the Course to 2025.

113. Strategic guidance for the Future Navy must be turned into tasks, resources, timings and responsibilities. This is achieved through Navy Force Structure Strategic Guidance and Plan Green, Navy's medium-term (10 year) capability management plan. Plan Green explains what Navy intends to do to meet capability and command responsibilities. In generating the Navy strategy map and strategic objectives, senior leaders are to remain aware of the guidance in the preceding pages and shape actions and decisions so that Plan Green aligns with both short-term and long-term Navy development goals. Navy Force Structure Strategic Guidance identifies capability gaps across the FICs and serves as the path for implementation of Navy's capability goals. The Navy Strategy - Charting the Course to 2025 will describe in detail the Navy strategy for achieving the goals articulated in Plan Blue 2006.

114. Readers of this document should, where appropriate, now seek out the NFSSG, Plan Green, Navy Strategy 2025 (when published) and the other supporting documents to complete their understanding of, and participation in, the evolution of Navy.

Conclusion

115. Plan Blue 2006 is the Chief of Navy's strategic guidance for the evolution of the Royal Australian Navy and transition to the Future Navy. It has highlighted the significant challenges Navy will face during this transition. The articulation of goals in the areas of people, major systems, supplies, support, facilities, organisation, command and management and collective training will ensure that today's decisions can be informed by a view of Navy's future. This will result in a Navy, as part of a joint force, that continues to deliver effective options to Government for the defence of our nation.

NAVY INNOVATION STRATEGY (3 YEAR CYCLE)

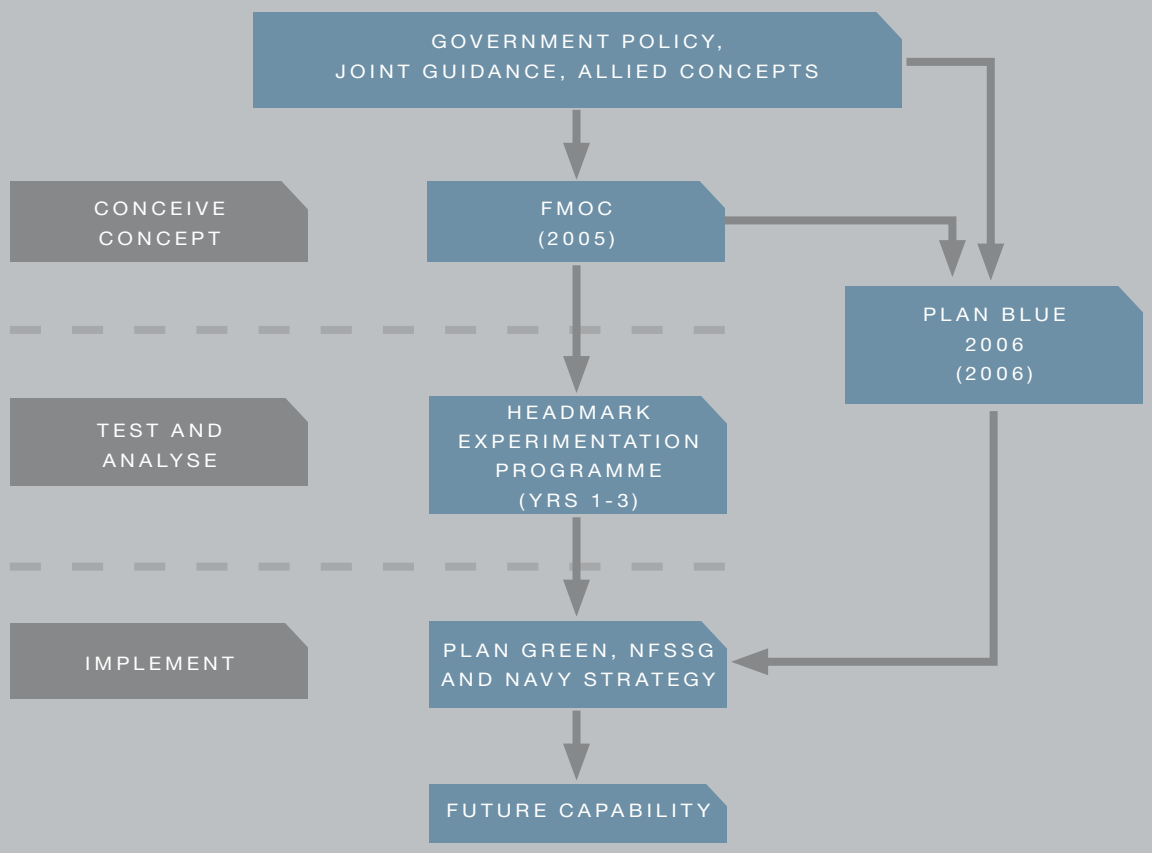


Diagram 2: Navy Innovation Strategy (Three Year Cycle)