

# THE NAVY

THE MAGAZINE OF THE NAVY LEAGUE OF AUSTRALIA

**ONE CAPITAL SHIP DOES NOT  
AN AMPHIBIOUS READINESS GROUP  
MAKE**

**CRESWELL ORATION:  
PERSONNEL CHALLENGES  
FOR THE FUTURE  
RAN FLEET**



**RESPONSE 1 : THE NAVAL SHIPBUILDING PLAN  
– A FATALY FLAWED FANTASY**

**RESPONSE 2:  
THE NAVAL SHIPBUILDING PLAN**

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**Front cover:** HMAS HOBART (D39) Enters its Base Port Fleet Base East Sydney for the First Time passing HMAS SYDNEY (I) Memorial under the White flying the Red Ensign. Photo by POIS Kelvin Hockey.

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**Deadline for next edition 5 November 2017**

## HISTORY IS WRITTEN BY THE VICTORS [1]

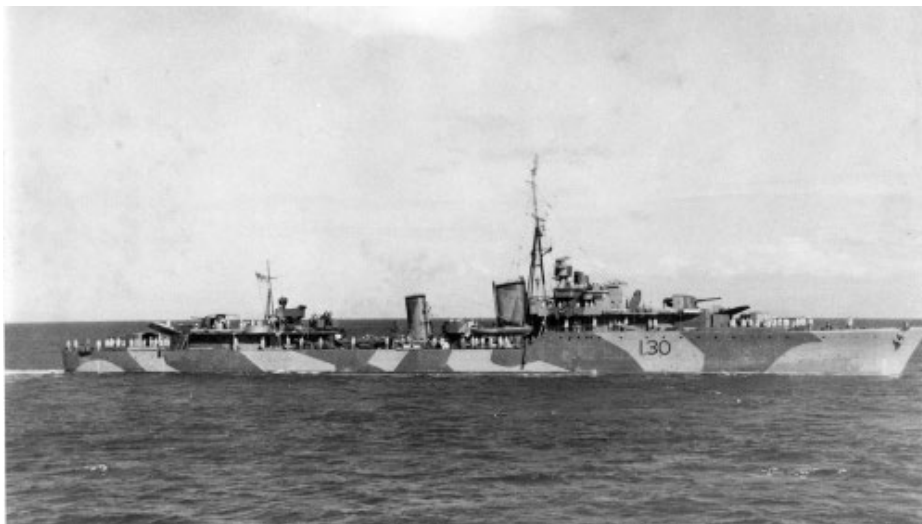
The final 2017 issue of *The NAVY Magazine* includes a paper by R.C. Blake, inspired by Rear Admiral Andrew Robertson AO DSC RAN (Rtd), on the development of RAN Amphibious Readiness Groups; Paper 2 is the 2017 Creswell Oration by the Deputy Chief of Navy Michael Noonan AM RAN and deals, amongst other things, with how Future Navy may be crewed. Both Papers 1 and 2 and commentary provide insight into future crewing and the type of models necessary to potentially double the size of Navy and sustain a big-ship Navy over the next twenty years. Paper 3 by Andrew Baird and Neil Baird provides a critique of the Australian Government's Shipbuilding Plan ('the PLAN') launched earlier this year – and which pulls few punches. Paper 4 by John Jeremy, similarly examines how Australian Yards and Industry might better respond to the PLAN and the skills required.

While not beginning this issue with a particular theme in mind, one clearly emerges directly and indirectly from all four papers to do with scaling, crewing, up-skilling, designing, building and composing Future Navy. From the implied and overt critiques each paper provides, it would appear that there is some way to go. Of course the Government wants 'jobs and growth' – a 'larger sustainable Navy and shipbuilding industry that will be a modern, innovative...secure and sustainable... highly capable, skilled, motivated, cost-competitive, and transferable national approach to delivering the [PLAN]'. So what is the counterfactual preventing the delivery of all of the above – as Karl Popper would argue – and which might explain why we are not delivering and have not previously delivered? Of course we all want the above – but shipbuilding is not a Beauty Contest where all the contestants want 'World Peace'. It takes hard graft and an understanding of what worked previously, what works today – and, most importantly what did not work, and so may also fail tomorrow. As Andrew and Neil Baird both argue (and emerging from the other papers too), 'this PLAN might have no clothes'. In fact, it may be just another clothes horse – 'highly fashionable; making all the right soundbites; spinning attractively but containing nothing substantive; including the know-how for delivering new capabilities'. There is also a suspicion that there is no new money either – simply the dressing up of existing 'initiatives' to spin images of a new clothes horse. In actuality, a plan with neither clothes nor horse?

Why does Australia seem to have such a penchant for repeating failures in peacetime – is it perhaps because it has written its history as the victor? The Digger myth grew from the disastrous amphibious failure of Gallipoli in 1915, from which the ANZACs were able to learn and fight another day. Yet 1917 and France in general is hardly ever mentioned in popular mythology – the worst year in Australia's military history. At great cost, we subsequently learned to apply All-Arms Blitzkrieg during the Hundred Days Offensive against the German Army, in 1918 – by which time the ANZACs had become the Empire's Shock Troops. Research by Dr David Noonan (University of Melbourne) suggests that '62,300 died and a further 8000 men would die prematurely due to war-

related causes in the post war years...Hospitalisations, due to wounding were 208,000... 30 per cent of which were admissions due to shell shock' – representing 67% of all servicemen deployed to operational theatres. [2] As yet unpublished research by Professor Roy MacLeod (Sydney University) indicates that Australia did not recover from the meta- trauma of WWI on its people (a population of just 5 Million in 1920) by the outbreak of WWII. [3] It was as if the Federation period of high hopes and designs for a New Commonwealth Sovereign-Identity that began in 1901, also died in 1917.

Seventy-Five years ago, the RAN suffered its worst year of losses, and the Army its worst ever defeat at Singapore, which is rarely acknowledged. [4] Up and until 1941/2, Australia was essentially fighting WWI all over again. The Australian Army did well enough (as did the RAN at Dunkirk and in the Mediterranean), albeit in fighting retreats through Greece and the Middle East – and in taking Syria against the Vichy French. Collapse at Singapore reportedly was not helped by the poorly trained 8th Division and the mass desertion of many of its men (according to some accounts). 22,000 Australian troops were taken prisoner in Singapore – many of who were allegedly (not proven as in



HMAS ARUNTA (I30) Sank the Japanese Submarine R033 off Port Moresby during the Battle of Milne Bay.

Scottish Law) implicated in looting and worse. [4] Australians represented 30% of all those captured. By this stage, they were up against a force of a little more than 25,000 Japanese – about 8,000 of who at any one time were seemingly dedicated to leading the assault on Singapore (where the British, Indian & Australian Army then comprised some 85, 000).

Kokoda (and Milne Bay) for all its bravery and the myth of the trail and the non-professional chocolate soldiers, was essentially a Brigade Level sideshow (albeit involving 30,000 Australian and U.S. Forces, and 13,500 Japanese) – necessary but not essential to the final outcome of the war. In any case, Kokoda (and Milne Bay) was won at Sea, in the real Battle of Australia – The Battle of the Coral Sea. Lack of a tangible Australian remembrance (other than in New York and off the coast of Queensland) this Seventy-Fifth Commemoration year was devaluing. Through such acts of selective amnesia the Kokoda-Digger Myth, alone, is perpetuated.

National humiliation and strategic failure at Singapore has





Japanese troops at Empire Docks celebrating the surrender of Singapore.

never been fully admitted for obvious reasons, to do with what then befell the captured soldiers, national pride and the need to maintain the 'Digger Myth' [4]. A myth based on 1917-19, when Australia had its maximum Sovereign influence due to the Diggers who fought from the Dardanelles through France to victory, under Monash. As was demonstrable in 1919, when the Prime Minister Billy Hughes had a 'top-table' seat at the Paris Peace Conference.

After the fall of Singapore, Australia's real skill of arms was in the way in which it rebuilt the RAN; supported the USN, and the last great RN Fleet of all time: the British Pacific Fleet. This was a magnificent national effort, as a sovereign maritime power in our own right and without which the RN would not have been able to fight its way back, first into the USN Order of Battle; then into the Pacific; and finally into the history books. Despite suggesting such a story-line to Peter Fitzsimons three years ago, this story has yet to be properly told. Yet it is the real story we need to be thinking through, today, not only the myths of 1914-1918 and Kokoda, in 1942.

The impact has not simply been upon our ability to learn from strategic failure in our own region, but also in Australia's failure to assume its own Sovereign Identity. A sovereignty seemingly not assumed twice over: in 1917 (following the losses in France); and then again in 1942, when Australia exchanged British for U.S. proxy-Sovereignty – and failed again to

take-up its own. As Professor Jonathan Bogais (Sydney University) maintains, 'since our knowledge is not sovereign – our un-assumed Sovereignty prevents both strategic thinking and effective Knowledge Transfer'. It makes thinking through the challenges we face to our north with our ASEAN friends, in terms of our national sovereign interests – and so being more than simply a 'sum of bilaterals' – much more difficult. It also makes our ability to transfer knowledge – for example in the building of a French Submarine in Australia – much harder. Exactly because we do not have values within a meta-sovereign identity (and political *sûreté* economy) we can call our own. This is hugely damaging to Australia and our position in South East Asia – our physical home. It prevents us seeing us for who we are (a maritime nation) and so learning from previous strategic failures – in order to prevent or at least to avoid future ones. This is far

beyond normative identity-politics and simplistic referendums on the Monarchy. It is about recognising our own unique values and co-adaptive advantages; assuming our own sovereignty; and having the confidence to do so ethically. We can do that without constitutional change – but only through leadership; courage; commitment; mate-ship and followership. Navy, steady, aye – eternally ready, has a key role to play.



HMS INDOMINABLE (R92), HMS INDEFATIGABLE (R10), HMS UNICORN (I72), HMS ILLUSTRIOUS (R87), HMS VICTORIOUS (R38) and HMS FORMIDABLE (R67) at anchor with other ships of the BPF, c 1945.

1. Ascribed variously to Winston Churchill (victors) or by Alexander S. Peak to George Orwell (winners).  
 2. See 'Why the numbers of our WWI dead are wrong: New research shows Australia's official casualty statistics are seriously distorted and must be revised immediately', SMH 30 Apr 2014, <http://www.smh.com.au/comment/why-the-numbers-of-our-wwi-dead-are-wrong-20140428-zr0v5.html> based on Dr Noonan's PhD thesis: *Those we forget: Recounting Australian Casualties of the First World War* (MUP, 2014).  
 3. Although speculative, ongoing research by Professor MacLeod suggests that Australia may only now in the 21st Century have recovered from the meta-trauma inflicted on our young country between 1914 and 1918.

4. In 1993, Britain released the report by Field Marshal Archibald Percival Wavell, 1st Earl Wavell, into the Fall of Singapore, in which was stated – not apparently by General Wavell – 'For the Fall of Singapore itself the Australians are responsible'. This was compounded by Peter Elphick in his book *Pregnable Fortress* (1995), in which he accused Australians of 'Mass desertion, looting, rape and murder'; forcing then Prime Minister Paul Keating to dismiss the allegations as being 'beyond the bounds of decency and credibility' and again blaming the defeat squarely on the British. See also <http://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3A%22library%2Fprspub%2FTS410%22>. Gary Brown, 10 Feb 1993.

## BREXIT, EAST OF SUEZ & A GLOBAL BRITAIN

While the primary focus of the Navy League of Australia is the Royal Australian Navy we do take an interest in the activities of and the developments in other navies. A quick glance at the Flash Traffic pages in The Navy will demonstrate the range of our interests.

From time to time our magazine has included comment on the Royal Navy. The two previous editions of The Navy have carried parts 1 and 2 of a paper by Jonathon Foreman "The British Royal Navy – Road to Salvation?" Perhaps not surprisingly these two parts have attracted a good deal of interest beyond our shores. At one point it appeared that The Times London was planning to publish the Foreman paper.

I was asked by The Times whether the concerns expressed in the Foreman articles about the state of the Royal Navy were widely shared in the Australian naval community. I replied that while Jonathan Foreman's words are of course his own there is little doubt that they reflect the opinion of many people in Australia interested in naval matters. There is genuine concern in the Australian naval community about the state of the Royal Navy.

In 1998 the United Kingdom conducted a Defence Review. For the Royal Navy it proposed 2 aircraft carriers, 12 destroyers and an overall destroyer/frigate force of 30+ and 12 SSNs. The present day, 2017 reality is, 0 carriers, 6 destroyers, a destroyer frigate force of 19 and 7 SSNs. The present projected building programme does not suggest a future destroyer/frigate force of any more than 19 vessels. (It is true that HMS QUEEN ELIZABETH has, as I write, just entered Portsmouth. It will be some years before that ship has its air group embarked. Nevertheless, it is to be hoped that HMS QUEEN ELIZABETH is a portent of better things to come for the Royal Navy.) It is hard to argue that the world of 2017 is a safer place than that of 1998. Yet each UK Defence Review since 1998 has cut the Royal Navy. It is no wonder that there are the concerns in Australia and elsewhere.



HMS QUEEN ELIZABETH (R08) Arriving in Portsmouth Naval Base.

RN and RM Personnel rehearsing for the opening of HMS JUFFAIR in Bahrain by The Prince of Wales - questions have been raised as to its legal standing.

Recently Sir Michael Fallon, British Defence Minister and Boris Johnson, the Foreign Secretary have visited Australia. They both spoke of Britain's role post Brexit. They spoke of an outward, global Britain. In a well received speech to the Lowy Institute Boris Johnson made it clear that post Brexit the UK was actively looking out to the wider world. He even suggested that the new RN carriers will be transiting the Malacca Straits – though he did say not to scan the horizon too soon. Boris Johnson's speech was in a sense a follow up to a speech he made some months ago in Bahrain, where the RN has reopened HMS JUFFAIR, in which he said Britain is back East of Suez. Speaking from the flight deck of HMS QUEEN ELIZABETH upon its arrival in Portsmouth Prime Minister May said "we are determined to remain a global power, working closely with our friends and allies around the world". Prime Minister May has on a number of occasions spoken of an outgoing post-Brexit global Britain.

It is to be hoped that over time the reality will come to match the rhetoric. It is hard to see a global Britain without a global navy.

A Footnote. The above tale of the decline of the Royal Navy from what was announced in 1998 to what has eventuated in 2017 is of course a cautionary tale for Australia. In recent times the Australian Government has made a number of announcements about frigates, submarines and offshore patrol vessels. These announcements were very much welcomed by the Navy League. This ambitious shipbuilding programme will take place over decades. That represents many terms of and, no doubt, changes of government. It will be a task for the Navy League of Australia to ensure that there is no backsliding of the kind that occurred in the UK.

## AND NOW, GOODBYE.

The Navy League has changed and adapted from the Sea Cadet mission it undertook for much of the twentieth century to now focus on being a knowledge base, an ideas generator and a trusted navy influence network, fit for the task in the twenty first century.

We have achieved a lot. But change is a continuing process. We live in a changing world. The League must continue to adapt to play its part. The final chapter of the League's history is entitled "getting set for the 21st century". That is our challenge. I am sure we can meet it.

At the Navy League Annual Meeting in Adelaide last year I concluded my Annual Report by saying that if the League was to be truly set for the 21st century then it should have a Federal President who was not born in the first half of the previous century. I said that I would therefore retire at our Annual Meeting this year. This will be my final President's Page.

I have no doubt that the League has an important role to play and a great future ahead. It will be aided in its role by fresh minds and younger bodies. Over the last 23 years I have enjoyed the benefit of the assistance and cooperation of very many people. The considerable changes to the structure and organization of the League could not have occurred without their cooperation. I am grateful for the assistance I have received from League members when I have been preparing submissions to Government, Parliamentary Committees, Navy and other organisations. I appreciate the help I have received in the planning and organization of meetings and functions - and much else.

I contemplated naming all those who have helped, but it is a long list, and I would not wish to miss someone. So I shall simply say my thanks to you all.



## LCDR Henry Hall MBE, OAM, RAN (Rtd) – Obit.

By Michael Fogarty

Lieutenant Commander Henry Albert Longdon Hall, MBE, OAM, MiD, RAN retired, was one of the most decorated naval combat veterans of WWII, and after, in a long permanent navy career. His service spanned the years from 1938 until 1981. He joined the Royal Australian Navy as an ordinary seaman second class and retired as an officer after a stretch which spanned 43 years of loyal and distinguished service. He was a member of the ‘vanishing present’, one of the great generations, who dedicated his life to the naval profession. That same good citizenship continued with his active involvement as he contributed to the wider local community.

“Nobby” is the sobriquet given to all Halls who joined the services. Short of stature, intelligent and wise, he was feisty, as the occasion demanded, but no less effective or efficient. His speech was clear and direct, and his bark and bite were moderate in their application, often deservedly so. He was widely respected as a personality who was the very embodiment of the navy. For Henry, there was no such categorisation of being ex-navy, even in civilian life; he still reified all things RAN, as he was a link to the past and its glorious traditions. As an ex-sailor, later an officer, he was a fine influence.

Henry was born in Sydney on 4 April, 1922, joining the pre-war RAN at age 16. After four years’ service, as an able seaman, he found his baptism of fire in one of the crucial battles of WWII. It was during his draft to HMAS CANBERRA that he was a witness and participant at Savo Island in 1942. He was a range taker in the foremast of CANBERRA when she was crippled and sunk on 9 August. [1] He saw his commanding officer die. For his heroic actions, he was mentioned in despatches (MiD), for his skill, resolution and coolness during operations in the Solomon Islands.

In his own words, Henry peppered his recollections with salty epithets. One can only imagine the fear and visceral terror he faced during a naval night engagement, when the Japanese warships took the best of luck and fortune available to them. But then, for those who were not present, in that fateful encounter, surely we cannot.

“Everything is awfully wrong. I’m in the midst of madness, sounds never heard before. Screams of horror and pain, flying glass, shrapnel

whistling through the air...tearing into flesh and bone.”

This young sailor temporarily transferred to USS BARNETT, where he again performed exemplary duties in the sick bay as an untrained medical assistant. He assisted with amputations and took care that the wounded were not over-dosed with morphine, daubing their foreheads M, in their blood, signifying that they had already been

“shot up”. It was a veritable cauldron of sea and fire. The war had still to be fought and won so Henry re-slung his kit bag and hammock to serve in a succession of ships to war’s end. Nobby was honoured as a gallant survivor when HMAS CANBERRA III was commissioned in 2014.



CANBERRA I had been deep-sixed so he later served in HMA ships HOBART and SHROPSHIRE, among other ships. The war took him to Balikpapan, Brunei, Tarakan and the Philippines. For the latter campaign he, with other participants, was awarded the Philippine Liberation Medal. He was serving in HMAS SHROPSHIRE at the Japanese surrender in 1945 when many allied ships sailed into a silenced Tokyo Bay. Henry had a good war, if any war can be good, as he survived. It was a defining experience in his formative years, shaping his character. For his generation, he also judged that wars are not marked by what they achieve, but what they prevent, the threat to national sovereignty.

In 1948, the RAN grew wings, as its new aviation branch was established. Nobby transferred to the Fleet Air Arm and advanced through the ranks to Chief Petty Officer, in the early fifties, specialising in meteorological duties. He had lost a first good conduct badge soon after the war but it was later restored along with his character rating. [2] It proved no handicap to his ongoing superior service, and he was awarded a long service and good conduct medal in 1955, before being commissioned in 1957.

Henry was your proverbial medal magnet, a source of awe to many young sailors, and not a few of their seniors as they were similarly impressed. His life and service carried visions of naval pageantry. Loyal he served, providing an inspiration to the naval and local community in equal measure. In 1953, he was part of the official contingent to attend the coronation of Queen Elizabeth II. Among other Australians, he received a Coronation Medal, a rare distinction



at the time. He was proud of that link with the past, for he had taken an oath on entry, never relinquishing it but for his death.

As an officer, heavily immersed in the air world, Nobby's sea service also meant a return to the deep draught ships, namely the aircraft carriers SYDNEY and MELBOURNE. Promoted to lieutenant, in 1963 [3], he made lieutenant commander in 1970. His sea service was remarkable, for he served at sea for 20 years in a naval life of over four decades. Henry served in HMAS MELBOURNE during the Malaysian Confrontation and in the Vietnam War in 1966. [4] Malaysia awarded him a medal for serving in its conflict with Indonesia.

Nobby also served in the stone-frigate navy, our establishments ashore, where he applied his expertise and background to good effect. Around his retirement, he was created a member of the Order of the British Empire (MBE). Another honour followed when in June 2010 he was awarded a medal in the Order of Australia (OAM). Henry performed tireless work for the naval and civil community, especially so for veterans in the Nowra-Greenwell Point area where he was fondly regarded as a local hero and distinctive identity who brought people together and shone as a role model and exemplar. He was active with Legacy, Rotary, the RSL and the Naval Association of Australia within the Shoalhaven.

He had led the Currarong Anzac Day march every year since 1968, in later years in the 'motorised corps', on a mobility scooter, riding but no less proud. He developed a close relationship with Shoalhaven

High School, participating in their Anzac Day service every year, becoming an honorary school captain. Age had not yet condemned him. He was a spry 'energiser bunny', who always hopped to it, showing the initiative expected in any leaders. He cleaved to values.

Henry was aged 95 when he died on 25 June at Currarong, NSW. A private funeral service was held at HMAS ALBATROSS, Nowra on 5 July. The RAN gave him a big ceremonial send-off with gun salutes and a fly past. He left two daughters, Gwyneth and Jenny, and many relatives and close friends. His wife died twelve years ago and he later made an abiding friendship with a young female companion (aged 90). Joyce survives him. The American author Joan Didion wrote a novel, *After Henry* (1992). With the loss of Henry Hall, there will be no sequel for our Henry. It is said that no one person is irreplaceable. Yet by his naval and civic leadership, he left his small world a better place. He was not a caricature on the fringes of life. Nobby was life itself.

Wednesday 9 August marked the 75th anniversary of the battle for Guadalcanal and the sinking of HMAS CANBERRA, along with other warships of the USN and Japan. As it is proudly commemorated, for many relatives of those who have died, their sorrow will grow wings. The loss of Henry allows us to reflect on him and his young comrades who were caught up in those tumultuous events. Their patriotic wartime service and sacrifice ensured that Australians now live in peace.

1. The 9th August marked the 75th anniversary of the sinking of Canberra. The original obituary was sent before the date and published on-line in the SMH 10 August.
2. He lost his first good conduct badge on 30 July, 1945 and it is reported in the ship's ledger (HMAS SHROPSHIRE) for the quarter ending 30 September, 1945. Restored early 1946.
3. He was promoted lieutenant in 1964 with seniority back dated to 1963. A semantic difference which would be lost on many so the 1964 is more appropriate date.
4. He was wounded several times but he was able to resume his long permanent career. The injuries may have restricted the full range of his duties, for later service on the carriers only.



NOTICE IS HEREBY GIVEN THAT THE

## ANNUAL GENERAL MEETING OF THE NAVY LEAGUE OF AUSTRALIA



will be held at the Hotel Realm, 18 National Circuit, Canberra ACT **FRIDAY 13 OCTOBER 2017 AT 8.00 pm**

### BUSINESS

- 1 To confirm the Minutes of the Annual General Meeting held in Adelaide on Friday 7 October 2016
- 2 To receive the report of the Federal Council, and to consider matters arising
- 3 To receive the financial statements of the year ended 30 June 2017
- 4 To elect Office Bearers for the 2017-2018 years as follows:
  - Federal President
  - Federal Senior Vice-President
  - Additional Vice-Presidents (3)

Nominations for these positions are to be lodged with the Honorary Secretary prior to the commencement of the meeting.

### 5 GENERAL BUSINESS:

- To deal with any matter notified in writing to the Honorary Secretary by 6 October 2017

**ALL MEMBERS  
ARE WELCOME  
TO ATTEND**

By order of the Federal Council

**Adrian Borwick**  
Honorary Federal Secretary

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# ONE CAPITAL SHIP DOES NOT AN AMPHIBIOUS READINESS GROUP MAKE [1], NOR ONE FIRST CLASS SUBMARINE, DESTROYER, OR FRIGATE

By Robert Cuthbert Blake

**Amateurs study and talk tactics; professionals study and walk logistics [2]**

The Royal Australian Navy currently deploys five large ships: HMA Ships ADELAIDE (L01), CANBERRA (L02); CHOULES (L100); SIRIUS (O 266) and SUCCESS (OR 304). HMA Ships ADELAIDE and CANBERRA are classified as Landing Helicopter Docks and HMA CHOULES as a Landing Ship Dock (LSD), having previously been Royal Fleet Auxiliary ship Largs Bay (L3006). HMAS SIRIUS is an Afloat Support Auxiliary Oiler (AO) and HMAS SUCCESS is a Auxiliary Oiler Replenishment (AOR). This paper examines the national, geostrategic [3] political and defence interests and leadership necessary to support the formation of a standing amphibious readiness group (ARG) in furtherance of Australia's international policies (with our principle Allies), Deterrence and in the event of war.

## BACKGROUND

In the RN, oilers and replenishment ships (including LSDs and Ro-Ros) are provided by the Royal Fleet Auxiliary (RFA), as a public (civil) service / civilian-crewed fleet owned by the UK Ministry of Defence, in support of the Royal Navy; Royal Marines and the British Army. In the USN, auxiliary support vessels (and those operated by Military Sealift Command) are given the prefix United States Naval

Ship or USNS, to de-note a non-commissioned ship that (while being the property of the United States Navy) is generally operated by a civilian crew; augmented by a small military complement. In the RAN, due in large part to the lack of 'big ships' between 1973 and 2013, auxiliary support ships have been crewed and operated as commissioned ships.

In all Navies, Capital Ships are generally a leading or a primary ship and the most important, larger warships when compared to other

The crew from USS ASHLAND (LSD 48) watch as the ship approaches the Henry J. Kaiser Class -USNS JOHN ERICSSON (T-AO 194) right, and the amphibious assault ship USS BONHOMME RICHARD (LHD 6).



ships in the fleet. In the modern, post-WWII era capital ships have generally been aircraft carriers, or those ships capable of carrying numbers of aircraft (rotary or fixed wing). By this definition, Australia currently has three capital ships: HMA SHIPS ADELAIDE, CANBERRA; and CHOULES. Although big ships operated and crewed by RAN under the title HMAS, HMA Ships SIRIUS and SUCCESS would not ordinarily be considered as capital ships. They are, however, fundamental to supporting the concept of the Fleet Train. A concept considered by the Admiralty in 1936 'for supporting a fleet at sea far in advance of its nearest base' and enacted (by the British Minister of War Transport) following the 1943 Quebec Conference, specifically to support the RN and RAN in the Pacific Theatre [4]. As Rear Admiral James Goldrick AO, CSC, RANR testified a few years ago – Australia has a unique challenge: 'it has to go 2000 Nautical Miles (3700km) up threat to have an influence and a further 2000nm to have an effect'. Consequently, the Fleet Train remains essential to Australia's Defence and forward operating / deterrence postures. This paper argues not that RAN should have fewer such auxiliaries, but more – suitably designated in support of RAN capital ships and warships.

In sum, this paper assumes that Australia will have three capital ships about which to configure its Amphibious Readiness Groups, from which the questions then become:

- 'What does the ARG component of the Fleet look like';
- How is the ARG crewed? and;
- How is it best supported (by the Fleet Train [5])?'

## WHAT IS THE ARG

The author concurs with Gleiman and Dean (2015) [6] that:

The ADF should be expected to employ an Amphibious Ready Element (ARE) within the primary operating environment in a matter of days and to maintain the ability to employ a full Amphibious Ready Group (ARG) in less than 45 days. Furthermore, the ADF should be expected to conduct regional engagement activities with the ARE for up to 90 days of every year. By meeting those standards, the ADF will be able to act decisively in crises and mobilise for contingencies in the primary operating environment and Indo-Pacific region. The amphibious force must be able to spearhead the ADF's potential responses to the most likely regional challenges, such as humanitarian assistance and disaster relief missions, complex stability operations, limited forced-entry operations and littoral manoeuvre.

In this respect, they considered an Amphibious Ready Group to comprise:

A naval element – a group of warships known as an amphibious task force (ATF); [a Embarked Military (Landing) Force (EMF)], in total about 5,000 people and a Tailored Air Group (TAG).

## WHAT IS THE ARG TODAY?

An ARG configured around current doctrine, would comprise one Capital Ships (HMA SHIPS ADELAIDE; CANBERRA; or CHOULES); two of the 8 ANZAC Class FFH Frigates; one of 3 FFGs / new DDG (Destroyers); one of 2 auxiliary replenishment ships (oilers) and one of the 6 Collins Class Submarines.

Applying the same modelling used by Großadmiral (Grand Admiral) Karl Dönitz (Doenitz) to the U-Boat war in the Atlantic – and understanding the tipping point reached in 1943 at which point the U-Boat campaign was no longer sustainable – for every ship 'on station' there are four in support: 1 deploying / working up; 1 returning; 1 in maintenance and one in refit / build (to maintain the



USS BONHOMME RICHARD (LHD-6) during Exercise Talisman Saber 2017.

drum-beat in peace time [7]). In minimal terms, to sustain one ARG on station requires 5 Capital Ships; 10 Frigates; 5 Destroyers; 5 AO/Rs and 5 Submarines. Clearly, there already exists an identifiable gap in Capital Ships, Destroyers and AO/Rs. Furthermore, the rest of the Fleet would have little capacity beyond supporting the AOR. It would be watch on stop on.

If the aspiration is to support two ARGs (from its three capital ships) – which is not an unreasonable assumption – an effective in-area ARG would need two of the Capital Warships available concurrently. Meaning the RAN would today have a deficit of 2 Frigates; 7 Destroyers; and 4 submarines. If the assumption is made that Capital Ships and AO/Rs may be run harder and differently to the Frigates – which is not unreasonable given their joint work-up requirements and crewing arrangements (with much of the EMF and Air Task Group embarking to the capital ships, on-deployment) – then there would be 2 Capital Ships and 3 AO/Rs in deficit.

Broadly speaking, as the RAN Fleet currently stands, it may support about 75% of a single standing ARG commitment – or have an ARG available potentially for 8 months in any 12. If the ambition is to sustain 2 ARGs, then the RAN as it currently stands could sustain 44% of such a commitment. It would be a bit like robbing Peter to pay Paul. The Fleet, as currently constituted and crewed, is hard pressed to support one ARG on station (with a dedicated trained-up ARE); let alone two. Of course, the Navy could deploy both ARGs for 5 months each and manage the costs and deficits accordingly, which is effectively where RAN stands today.





USMC AV-8B Harrier operating from USS BONHOMME RICHARD (LHD-6)  
Exercise Talisman Sabre.

## WHAT SHOULD THE ARG LOOK LIKE?

*Was I to die this moment, 'Want of Frigates' would be found stamped on my heart. [8]*

Looking at the future Navy, as currently allowing for the on station ratios and for 9 Frigates; 3 Destroyers and 12 ('conventionally-propelled' SSK) Submarines, then the RAN could support one ARG on permanent station, with a surplus in submarines, and a deficit of 1 Frigate; 2 Destroyers; 2 Capital Ships and 3 AO/Rs (on replacement with the new auxiliary ships currently being built by Navantia, in Spain). The improvement in supporting 2 ARGs is relatively marginal in being able to provide for 60% of the time – but again only by stressing critical, key enablers; notably Frigates, Destroyers, and AO/Rs.

The question of submarines is not as simple as it might first look – but then when was it ever? Even allowing for advances in AIP systems, only nuclear propulsion is likely in the foreseeable future to provide the legs (in terms of speed and range-at-depth) necessary to allow a submarine to keep station with an ARG. Pre-positioning is of course a possibility, but this would put even more pressure on submarine crews and hulls. Alternative non-tear-drop hulls (back to U-Boats) and versatile modular systems' approach for configuring submarines up threat (from Network Heavy-Lift Vessels) remains a viable option – but is not currently on the peace-time thinking table. [9]

If the ambition was for the RAN to maintain a continuous-at-sea (CAS) ARG, and two ARGs at reduced readiness (RR1; RR2) then this may be achievable but only in alliance with other partner navies, for example the Japanese, Indian and Singapore Navies. There is no



HMAS CANBERRA (L02) as part of the Exercise Talisman Sabre ARG July 2017.

reason that such a CAS-ARG could not operate with equivalent U.S. Battle Groups. But the scale and magnitude of U.S. forces is well-beyond current medium-scaled navies, such as RAN. Additionally a degree of sovereign independence would be lost or subsumed within such a 'greater' group – that may make the resultant force less great than the sum of its parts.

*The NAVY Magazine* [10] 'Flash Traffic' suggested the formation of a Japanese Australian Singapore Sea-Based Contingency Network, which might expand to include India; stating inter-alia:

The U.S., as it rebuilds its Navy needs Allies to take up the slack and share the loading. A tripartite Japanese, Australian, Singapore (JAS) Sea-Based Contingency Network (SBCN) – with an emphasis on HADR, fishery protection, anti-smuggling (including people) and piracy, acting in accordance with Freedom of Navigation and UNCLOS – would provide a degree of asymmetry to contingently defuse current symmetries in the South China Sea. Working inside-out and outside-in (OIIIO), such a tripartite network would have at its core an ability to liaise informally with other navies – with a liminal focus on including India – so creating two overlapping networks: one East and the other West facing, with Australia and Singapore as its interconnectors. The SBCN would work with the U.S., and China but it would also exercise a degree of co-dependence and co-adaptation, while retaining and sustaining a professional edge for the core Navies. Its intent would be to avoid strategic miscalculation by acting to maintain presence – so as to influence all sides. It is not in the interests of the region or any side to exacerbate aggression or the heating up of current disputes, through exclusion or containment. Having Japan, Australia, Singapore and potentially India on-board would help each network member develop core maritime skills, while providing essential asymmetries and alternative, contingent ways of thinking.

So what might an RAN capable of sustaining a standing ARG and two ARGs at readiness, with its key regional Allies look like? There is no escaping the fact that the key shortfall that would enable the RAN to sustain a meaningful commitment to such an ARG (and the benefit of up to two reduced readiness ARGs for national application), would be in Frigates, Destroyers and A/ORs. In this case, the RAN would wish to field a Fleet comprising at least 20 Frigates, 12 Destroyers and 5 AO/Rs; recognising that submarine numbers (when we get them) might be 'about right', although propulsion-limited. This would give some spare capacity and also the opportunity to concentrate resources, and to divide between Fleet Bases East and West. It would mean expanding the number of Future Frigates by 11; Future Destroyers by 9; and AO/Rs by 3. This, though, would be a bare minimum. Ideally, RAN would comprise up to 15 Submarines (potentially allowing for a batch of up to 9 SSNs, the critical mass for sustaining nuclear propulsion); 15 Destroyers; and 24 Frigates and potentially 7 AO/Rs. In war time and in peace time, the new Offshore Patrol Vessels at over 2000 Tonnes (equivalent of a 1970s Frigate) could be in a position to augment the Frigate / Destroyer gap. This would also allow the capacity to provide supply ships with escorts in forward areas; and for convoy escorts for vital supplies to and around Australia.

Assuming such an Alliance could be agreed (based upon Australia providing and sustaining additional Frigates, Destroyers; and AO/Rs and its three capital ships – with Japan, Singapore and India providing up to three of their capital ships, in addition to supporting Frigates, Destroyers, Submarines and AORs), about a 15 year hull life-cycle (replacing at half-life), and including maintenance, refits and work-up) to support an Allied ARG about 4 months on-station-deployments, might deliver:

- The region with a continuous-at-sea stand-by ARG, with an Australia Capital Flagship for 9.3 years in any 15, and with an Allied Capital Flagship for 5.7 years (in any 15);

It could also provide Australia with 2 ARGs available, at reduced readiness, for national tasking at any one time:

- An available RAN ARG at Reduced Readiness (1) capacity for 15 years, in any 15;
- An available RAN ARG at Reduced Readiness (2) capacity for 15 years, in any 15;
- A third RAN ARG at Reduced Readiness (3), available for 1.3 years, in any 15;

## WHAT POLICIES ARE NECESSARY TO SUPPORT THE ARG?

An ARG only works as a joint force in which the Navy and Air Groups (including RAAF from sea) working together project influence and force forward through the Embarked Military Force (Army). A LHD / LPD responsibility is to 'Fight EMF' at all times; then Move and Float in support until it can no longer do so. This is different for all other naval vessels, with the potential exception of AO/Rs.

Although modest increases in recruiting were allowed for in the 2016 Defence White Paper, these are in themselves not sufficient to overcome existing gaps in Navy's complement, and to grow Navy to sustain the current Fleet, let alone a future Fleet comprising additional submarines, frigates, and AO/Rs, plus a standing Information Warfare and Cyber (IWC) commitment [11] and potential future branch. In broad terms, the Navy today, including Reserves) is about 16,500 strong. [12] To support the existing Fleet, Navy needs a force in the region of 19,000 personnel. Looking downstream to the future growth in Navy submarines, frigates, AO/Rs and IWC commitments, Navy would need a complement in the region of 25,000. Looking at a potential Navy capable of supporting two ARGs and a CAS-ARG – with additional Frigates and Destroyers – a complement (trained strength) in the region of 30,000 would be needed. [13]



USMC Osprey Landing on HMAS CANBERRA (L02) during Exercise Talisman Sabre 17.

The question Australia should also be asking is 'what the size of the standing Armed Forces of a country of nearly 25 million strong should be?' Broadly speaking, equivalent Western countries such as the UK, in peacetime, have had between 0.4% and 0.6% of its population under-arms. For the UK, this would mean having standing Armed Forces of between 250,000 and 400,000, including Reservists. Using a similar '3 to 2' rule of thumb, 250,000 personnel under-arms would

generate a standing Army in the region of 150,000; a Navy of about 35,000 (plus a Marine Force of 10,000) and an Air Force of 55,000 – which approximates to the UKAF through the 1990s and up and until the 2010 SDSR Defence Cuts. Australia currently has approximately 80,000 personnel including active reservists, under arms – equivalent to 0.3% of its population; equating to an Army of 45,000; a Navy of 16,500 and an Air Force of 18,500. Applying the 3 to 2 yardstick, the Army is currently under born and should be about 52,000.

Table 1: Projected Balance of Force

ADF (x 1000) 2017 (0.32% of Popn.)	ADF (x 1000) 2017 3 to 2 (.34% of Popn.)	ADF (x 1000) 3 to 2 (0.4% Popn.)	ADF (x 1000) Future Navy 3 to 2 (0.6% Popn.)	ADF (x 1000) CAS ARG 3 to 2 (0.6% Popn.)
Army: 45	52.5	60	90	90
Navy: 16.5	16.5	19	25	30
Air: 18.5	18.5	21	35	30
Total: 80	87.5	100	150	150

The question then returns – as Table 1 shows – it is not simply a question of increasing Navy, but also of sculpting the other Forces to keep the overall force balance. The question of Army's role is also pressing – since Plan Beersheba does not generate the deployable EMF and ARE Force required today, let alone supporting a CAS-ARG and two Australian ARGs at reduced readiness. [14] In such a force, it might be envisaged that Army would dedicate an EMF of 8,000 – meaning an effective Amphibious strength of 33-38,000 (25-30,000 RAN, plus 8000 Army).

The issue for Air Force becomes one of more an expeditionary focus than allowed for in Plan Jericho [15]; including the forward operating from decks of UAVs, armed and otherwise. It is simply lacking in imagination and integrity not to adapt at least one LHD to operate F-35Bs, the short take-off and vertical-landing (STOVL) variant of the Lightning II Joint Strike Fighter. Despite claims about inferior flight deck steel, the need for deck-strengthening etc., the truth is that both LHDs could be operating F-35Bs and Harrier AV8-Bs, today – probably with greater ease than they can rotary wing aircraft! It would not take too much imagination and some effective engineering to make this into a feasible, full-service capability. Even if initially this was for USMC fixed-wing aircraft operating from Darwin.

## WHAT ARE THE INDUSTRIAL AND MILITARY BASE REQUIREMENTS NECESSARY TO SUPPORT THE ARG?

Australian Defence is eternally based on a counterpoise; requiring it to dynamically flex between its two southern bases, Fleet Base East and Fleet Base West, and Darwin (and Brisbane) in the North. This gives Australian defence, strength in depth and an asymmetric poise, but only if it has the resources deployable to Influence with Intent (IwI) The Military Base requirements need a dedicated Ro-Ro mounting facility, ideally with rail-head connections, to the south of Fleet Base East. Eden has previously been suggested, which would have the added benefit of reducing pressure on Sydney and FBE – but only if significantly developed and better protection afforded, than currently pertains. For Army, this would mean shaping south and away from Brisbane and Townsville for mounting operations – which again makes sense, but also stresses the need for a railhead





HMAS DARWIN (FFG-04) Alongside Multipurpose Navy Wharf Eden.

at Eden. Training and Basing might remain for majority of Army in Queensland, but for the EMF:

The Chief of Army should establish a system of tiered amphibious readiness that provides a dedicated, top-tier, high-readiness ARE and a proficient ARG and integrates with the Plan Beersheba model. [16]

For RAAF and Plan Jericho, it would require looking beyond its current horizons and deploying forward, perhaps mounting through HMAS ALBATROSS in Nowra elements of its UAV and UCAV Force, in addition to developing and ideally integrating its F-35 *Lightning II* Force with Navy, over time. This will be a significant cultural change for all three services and will 'require thinking as we would if we were at war'.

For industry the challenge is significant. It needs to be able to build and sustain the Fleet in peacetime, with all the Knowledge Transfer implications addressed, if it is to supply the 'Fifth ships in wartime'. [17] The Future Submarine programme is only a part of such a dynamic return to the seas. Similarly, it will only succeed if the non-trivial questions of Knowledge Transfer (not simply between France and Australia) are first addressed.

## A BLOODY WAR OR A SICKLY SEASON?

The techno-autocrats who prepared the 2016 DWP did not address the importance of the understanding and the knowledge of culture necessary to address intercultural conflict, as much as between Allies as with those we are in potential conflict with. Amongst all

the commentary (and denied largely by the current PACOM and possible future US Ambassador to Australia, Admiral Harry Harris USN), there has been little conjecture as to President Xi Jinping's power balance in China itself. [18] Yet there have been at least two reported coup attempts against him and his Princelings in recent years. The reason he cannot move against North Korea is one of weakness – his weakness with regard to the non-Princelings and Generals who run many of the provinces, and quasi private security companies (Q-PSCs), for example the Chinese Coast Guard. If Xi was to move against North Korea, he would open his own flanks in the CCP to attack – and would fail in any case. Exactly because the interests in the border regions, and trade with North Korea – such as it is – is not controlled by him or those close to him. Moreover, the existential positioning of Korea at the heart of the CCP – which saved Mao during the Korean War (there is evidence to suggest Mao would not have consolidated power and taken influence from Moscow following the 1949 Revolution without the Korean War) – means he would be cutting his own neck. Far better for Xi to 'wait out' – if there is peace or war, he wins either way. And the U.S. is further weakened, whatever the outcomes – all to his advantage. The same is the case in the South China Sea. Xi does not own the islands, or those doing the building – much of which is contained within the Q-PSCs and departments managing the coastal regions. As long as he allows these agencies to have 'their time making sand castles in the sun', [19] he retains his power and influence. If he moves against them, then he dies – so popular is the cause now seen to be. So any move against the artificial-islands by the U.S. simply reinforces his position. To date the responses by the U.S. and the Allies have largely worked to reinforce rather than reduce hard symmetries in the region. Yet the region really does not want either a sickly season, or bloody war. Supporting Japan to adopt an offensive constitution may not be part of the answer – and Australia should know this. However, if Australia were to re-assume its sovereignty (never really taken-up post WWI, from the British; or post WWII, from the U.S.) and humbly take an influence-leadership style in the region with close friends such as Japan and Singapore and India, then it might be possible to de-escalate tensions and enable people to save face and climb back-down. But only through re-establishing such a leadership position which, for a Maritime Nation, is eternally from the sea.

**Acknowledgment:** the inspiration behind this paper was Rear Admiral Andrew Robertson AO DSC RAN (Rtd) whose passion for Navy and influential leadership role over fourscore years is an example to us all. ■

### FOOTNOTES AND REFERENCES

1. After Aristotle, 'One swallow does not a summer make, nor one fine day; similarly one day or brief time of happiness does not make a person entirely happy'.
2. After General Omar N. Bradley U.S. Army (1893-1981)
3. For a definition of National Strategy, as linked to Clausewitzian Grand Strategy, see: UK-PASC. (2010) Who Does UK National Strategy? *Public Administration Select Committee (PASC)*, 12 Oct. London: House of Commons
4. See Vice Admiral Sir Douglas B. Fisher KCB KCE RN (1954), *The Fleet Train in the Pacific War*, ©Crown Copyright / MOD (1954), reproduced by permission of the Institution of Naval Architects see: <http://www.worldnavalships.com/forums/showthread.php?t=13801> accessed Jul 2017.
5. *The Fleet Train in the Pacific War*, ©Crown Copyright / MOD (1954), *ibid*.
6. Gleiman K, and P.J. Dean. (2015) Strategy, the ADF and Amphibious Warfare: Past, Present and Future. *The NAVY Magazine of the Navy League of Australia* Vol. 77, No. 4, Oct-Dec: pp. 24-27.
7. Traditional 'peacetime' planning maintains a ratio, of 1 to 3. However, given: lack of existing capacity in all fleets; long ship-build times in peace time; the necessity to maintain momentum and tempo in ship-building, and ideally to sell off at half-life (15 years) and if none of the above to refit at near half-life (to extend life), a 1 to 4 ratio is applied. The U Boat War was lost in 1943, exactly because Doenitz's U Boats could no longer be refitted and built (the Fifth ship) at the rate necessary to sustain losses.
8. Lord Admiral Horatio Nelson, After the battle of the Nile, Aug. 1, 1798.
9. See, for example, the late Mr John Strang AO (of Strang International) in: 'Australia and its 21st Century Defence Needs: Submarines, Parts I and II'. *The NAVY Magazine of the Navy League of Australia* (2015 & 2016) Vol. 77, Iss. 4, Oct-Dec: pp. 5-9; and Vol. 78, Iss. 1, Jan-Mar: pp. 6-10.
10. *The NAVY Magazine*, Jul-Sep 17, Vol. 79, No.3, p. 19.
11. The question of Cyber is not addressed in this paper, yet how can new cyber technologies protect capital ships, when existing systems (no matter how large the support groups in traditional ship numbers) cannot.
12. The entire Navy has fewer people than half the number registered as students at just one Australian civic university, e.g. either University of Sydney or UNSW. What machinery is in place to quadruple this number overnight for all the Services, if required? Is the Federal Contingency Fund prepared for such an eventuality?
13. For another paper is the need to revisit some the concept of 'preparatory industrial mobilisation', such as Australia had during WWII and the early Cold War: the Swiss model; effectively the Israeli model, in which civilians with special competencies (think Cyber) are trained, and given reserve military rank, and are in a position to perform military functions in times of need.
14. See Gleiman K, and P.J. Dean. (2015), *ibid*.
15. See Barrett T. (2016) The Imperative of Critical Systems Design Thinking for scaling and composing Navy's future systems and ships. *The NAVY Magazine of the Navy League of Australia* Oct-Dec 2016, Vol. 78 No.4: pp. 11-15.
16. See Gleiman K, and P.J. Dean. (2015), *ibid*.
17. The British Admiralty up and until the 1970s kept its own contracts with industries, independent of the UK Ministry of Munitions (and later MoD), and despite the Ministry of Supply. The current demise of the RN is directly related to its subsequent loss of such relative independence.
18. See Hemlock J. (2016) China Asymmetry: Preventing the Dragon's Tears. *The NAVY Magazine of the Navy League of Australia* Jul-Sep 2016 Vol. 78 No.3: pp. 8-12.
19. With parallels to Imperial Germany's *Weltpolitik*, outlined in 1897 by German Foreign Secretary Bernhard von Bülow stated, 'in one word: We wish to throw no one into the shade, but we demand our own place in the sun'. (Mit einem Worte: wir wollen niemand in den Schatten stellen, aber wir verlangen auch unseren Platz an der Sonne.)

# CRESWELL ORATION: 'PERSONNEL CHALLENGES FOR THE FUTURE RAN FLEET'

By Rear Admiral Mike Noonan AM RAN – Deputy Chief of Navy

**This prepared paper was first delivered as The Creswell Oration at the Australian Navy Foundation Day of the Navy League of Australia, Victoria Division, 1 March 2017 at the William Angliss Institute of TAFE, Little Lonsdale St, Melbourne.**



Deputy Chief of Navy RADM Michael Noonan AM RAN Presented with Admiral Creswell Portfolio by CMDR John Moller OAM RFD RANR President of Naval Association Victoria.

## INTRODUCTION

Admiral Noonan thanked members of the Creswell family, members of the Australian Navy Foundation Day Organising Committee and of the Navy League for the opportunity to present *The Creswell Oration* for 2017, in honour of the 'Father of the Australian Navy,' Vice Admiral Sir William Rooke Creswell, and to celebrate Navy's 116 years of service to the Australian nation.

## FORMATION & DARKEST DAYS

The first of March 2017 is the 116th anniversary of the creation of our Navy by the Federal Parliament in 1901. It is also the 50th anniversary of the introduction and first hoisting of the Australian White Ensign—the first naval ensign unique to the Royal Australian Navy. The hoisting of Australia's own White Ensign would, I'm sure, have made Vice Admiral Sir Creswell enormously proud. Particularly to see it flying from the Flagstaff on top of the Sydney Harbour Bridge—as it is today.

For Navy, this year is of particular significance, as we remember and commemorate, the 75th Anniversary of the darkest year in the history of the Royal Australian Navy. By the end of 1942, HMA Ships PERTH, YARRA, KUTTABUL, CANBERRA, VAMPIRE, VOYAGER, NESTOR and ARMIDALE, together with more than 600 men, had all joined the growing list of RAN wartime losses, in a year during which there was little to celebrate.

But while we pause today to honour all of those who were killed

in action and those who survived the wars of last century but have since passed, it is also appropriate to celebrate the significant achievements of our proud Service over the last 116 years. Before the birth of Australia's Navy, the Australian colonies were empowered to build their own naval defences—something at which Victoria excelled! In fact, by the time of Federation, the Victorian Naval Forces were considered the most powerful of all the colonial naval forces.

With the advent of Federation and the birth of the Commonwealth Naval Forces, in 1901 Victoria's joined the other colonies' naval forces to form Australia's Navy. Indeed, Victoria contributed more ships than any other state—including the torpedo boat, Her Majesty's Victorian Ship Lonsdale.

Subsequently known as Her Majesty's Australian Ship LONSDALE, the vessel had been named after William Lonsdale—a soldier turned colonial administrator, and the first Chief Agent of Government, Police Magistrate and Commandant of the Port Phillip District. Many here today will recall that the name Lonsdale was also borne by Port Melbourne's own Navy base until 1992. Thus the name Lonsdale represents an important connection between our colonial heritage, our Navy and our nation today.

We were fortunate to be joined by William Lonsdale's Great, Great Granddaughter, Ms Cecilia Newman, who has generously gifted the remarkable Lonsdale Silver Collection to be housed on loan at the museum of HMAS CERBERUS—Victoria's own naval base. This unique artefact of Victoria's history will be displayed together with memorabilia from HMAS Lonsdale – including a large oil painting of William Lonsdale himself. on behalf of Navy Admiral Noonan thanked Ms Newman for entrusting the RAN with this very special collection. It will be the treasured centrepiece of what will become the HMAS Lonsdale room.

## SAILORING ON

We've come a long way since HMAS LONSDALE commissioned into the newly-formed Commonwealth Naval Forces. 116 years ago, Navy was a small Service of just 239 full-time personnel, responsible for operating a collection of inherited, mostly obsolete warships – with a remit focused almost entirely on local defence, and with a capability challenged to even deliver upon this mission.

Today's Navy is an organisation of more than 16,000 Permanent and Reserve women and men – trained, equipped and ready to defend Australia, to contribute to regional security, to support global interests and to protect national interests. And we continue to grow in size, in strength, in agility, in intelligence and in lethality. We are well prepared and equipped for our mission—'to fight and win at sea.'





HMVS LONSDALE underway on Port Phillip Bay with Whitehead torpedoes secured in port and starboard torpedo dropping gear.

The context for Navy's continued growth and modernisation was set out in the 2016 Defence White Paper, released just over 12 months ago. The Government has set its priorities based on key drivers shaping Australia's security environment—which include the pace of regional military modernisation, state fragility, the enduring threat of terrorism, and the emergence of new cyber threats. A very different environment to the one that we faced in 1901:

- Cyber security now ranks as one of the key risk areas for both Defence and national security.
- Our security environment is clearly more complex and challenging than ever before.

## QUO VADIS?

So what must Navy take from these future security challenges? To begin with, we must recognise that the changing nature of threats to Australia's security mean that we can not continue to prepare the Navy as we have done in the past.

Tomorrow's Navy needs to provide Australia with the ability to prosecute war, while at the same time contribute meaningfully to allied and coalition operations. And it must also be prepared to meet the peacetime demands of government, which continue to evolve beyond required engagement to a clear commitment to high-end humanitarian aid and disaster relief operations within the Indo-Pacific Rim. Additionally:

- We must ensure the Navy is equipped and trained to meet Australia's strategic objectives—both in the Indo Pacific region and globally.
- We need to grow our expertise in sophisticated cyber warfare and defence.
- And we need to be ready to take delivery of, operate and maintain \$195 billion worth of new capabilities that the Government is investing in over the next decade.

While this is an exciting time for Navy, there are some clear challenges. In the next few years, we will be operating three new Air Warfare Destroyers and two new tankers—and we will be building nine new frigates, 12 submarines and 12 offshore patrol vessels. This is in addition to the two LHDs, 24 Seahawk ASW helicopters and six MRH 90 Utility helicopters which we have recently taken delivery of.

As we prepare to operate more platforms, the first important realisation is that our people will be the foundation of this transformation—and we must get this right from the outset.

As Deputy Chief of Navy and Head Navy People Training and Resources, one of my primary concerns is the strategic management

of Navy's workforce. This is because, people remain the greatest single factor in our success in operations.

It is my job to deliver the workforce capability required by the Chief of Navy—and to posture for future strategic developments. It may sound relatively straight-forward, but I can assure you it's an incredibly daunting task as Navy prepares to embark on the largest recapitalisation program undertaken in modern times.

The bottom line is that those ships, submarines, and aircraft must be crewed – and not just 'crewed', but operated by intelligent, well-trained, combat-ready, men and women who are experts in the use of their sophisticated new combat and communications systems.

And it falls to me and my Team to figure out how we will manage this.

## FUTURE WORKFORCE, TODAY

So how will we produce the required workforce for our future fleet-?

The workforce that Government expects from Navy is integrated, diverse, resilient and deployable—and it has the skills and



HMAS LONSDALE December 1947 (Image AWM).

competencies to achieve Navy's missions and roles. This means that we need to develop a workforce which harnesses all the benefits of technological change and the diverse experiences, backgrounds and knowledge of all sectors of the Australian community. Challenges currently include:

- Understanding and embracing diversity will be critical to creating and sustaining Navy's workforce now and into the future. We can no longer afford to do things the way we always have done – it simply will not work.
- An ageing Australian population, lower population growth,
- the fact that people today are balancing greater family, career and community commitments – and they are changing jobs more frequently.
- Lower enrolments in Science, Technology, Engineering and Mathematics, or STEM subjects, will make it difficult to grow the technical disciplines we will need to support a national, continuous shipbuilding industry.



HMVS CERBERUS 1871 the first British Breastwork monitor ship without sail now a salavable wreck at Blackrock Port Phillip Bay.

- Dwindling investment in trade skills will continue to drive up competition between prospective employers – including Navy.

Growing and sustaining the requisite workforce depends on a few critical and enduring principles. Above all, it is critical that we identify the shape, skills and needs of Navy's future workforce – both at sea and ashore.



People remain the Greatest Single Factor in RAN Success in Operations.

Understanding the required 'shape' has allowed Navy to boost mid-career and mature entry opportunities, meaning that some personnel may, for example, seek a 20-year career over a 40-year period. This has prompted some substantial improvements to Navy's Reserve employment initiatives, and it has equipped Navy to be more responsive to the factors which cause people to leave. And all of this ultimately aims to drive up job satisfaction and retention.

Besides getting better at keeping our people, we are also redesigning Navy's training continuum to better prepare people for their roles—and that we are committed to ensuring their training continues throughout their careers.

We have also reduced the amount of 'at-sea' training, by instead using innovative simulation systems. It means we are able to train and qualify more people in less time—allowing us to also reduce the training burden on our ships, our submarines and our aircraft squadrons.

## FLEXIBLE DIVERSITY

One of the most significant evolutions in the way Navy manages our people has been our progress towards a culture that promotes flexibility and diversity.

We have also sought to grow a workforce that is more reflective of the Australian community – by attracting, recruiting and retaining a wide range of talented people, with an emphasis on women, Aboriginal and Torres Strait Islanders and people from culturally and linguistically diverse backgrounds.

I have no doubt that Admiral Creswell would be thrilled to see how far we've come since his early vision for an Australian Navy. Where Creswell was campaigning the Admiralty for new ships and increased manpower, the leadership of today's Navy is working out exactly how we are going to operate, maintain and support the Future RAN Fleet. It's a terrific problem to have.

## TRANSFORMATION

Achieving the level of growth and transformation that Navy requires to meet our ambitious modernisation program compels change.

This transformation will require the challenging of norms, critical thought and agility in problem solving. It will require everyone in Navy to 'challenge and innovate'—because good ideas don't just come from leaders and supervisors.

Navy is also looking outwards—particularly to industry, government and the education sector – to recognise that an investment in Navy capability of \$195 billion requires the collective effort of a national enterprise.

With just under fifty government-owned and operated ships and twelve future submarines in the national inventory, the Australian government is confident that the work program is sustainable.

The national shipbuilding industry that we are building, will generate work that the national engineering, systems design and integration, construction and management capabilities—folded into a continuous shipbuilding program—are able to meet indefinitely.

And it means that we now need the total engagement of Australia's technological, industrial, education and research communities to work with us—ultimately as a national enterprise – to deliver our future Navy.

Thank you for the opportunity to join you today, on Navy's birthday, and to present The Creswell Oration for 2017. ■



Mrs Rosemary Creswell and CDRE Michelle Miller RAN - Navy Past and Future.



# EDITORIAL COMMENT

From what Rear Admiral Mike Noonan eloquently reported at *The Creswell Oration*, it is clear that Navy has thought through many of the problems it is facing. What probably needs more consideration is how to deliver the necessary changes and address potential responses to them over the longer term.

## AT SEA IN A NEW MODEL NAVY

Using a simple front-end decay rate population model based upon initial entry to Navy, it is possible to develop a human terrain Navy Crewing Model for 2017 and 2037 (including gaps). The purpose of this type of modelling is to provide for *falsification* [1] and through such a process identify gaps in knowledge that might allow for finessing of the model, or *fitness* [2-4]. Of course there are more sophisticated models but these are often not scalable or composable and are unit or departmentally focussed, rather than taking a system or system-of-systems view. Such models are often complicated and not complex in their lack of simplicity.

Taking the current Navy size from various sources, it is possible to model its crewing requirements at a current strength of about 16,500 personnel. Based upon modelling-by-need against current sea going appointments, and allowing for a 3-year, in-job rotation it is possible to estimate an adaptive crewing model (based on front-end entry) for the Fleet today. This model suggests a Navy complement in the region of 18,500 to sustain the current crewing of Navy's Order of Battle (Orbat). Breaking this model down further for Rank and for Age, it is possible to identify potential gaps. Analysis of the age profile, while confirming current gapping of over 2000 (to sustain current crewing commitments), indicates gapping concentrated in the age brackets '29 and under'. In other words, amongst Lieutenants and Petty Officers (and below).

A model for 2037 based upon the projected RAN Orbat in twenty years' time, indicates a shortfall or gap between the Navy in 2017 and 2037 in the region of almost 8,500. In broad terms and addressing existing and projected gapping, it might be necessary to recruit for a Navy of about 33,000, in order to sustain a Navy of 25,000 in 2037. This may not be achieved through natural wastage alone. The commitment required to increase recruitment, even to allow for the reduction of gapping in 2017 over the next five years, will be significant.

## FACE OF NAVY

Examination of the current Navy complement, suggests an average age in the mid-30s. In Face terms, based on initial, front-end entry, this equates to a Chief Petty Officer or a Lieutenant Commander, if they joined Navy at 17/18 and progressed smoothly up the ranks. The question becomes 'what should the average age of Navy be?' Anecdotally, Navy's age profile appears to be shifting right (essentially a dying organisation!) – with older recruits joining; including recent lateral entry transfer from Allied navies, such as the

RN. A sustainable age for Navy – equating to the Face of Navy being at the Leading Seaman / Lieutenant level – implies an average age between 27 and 29 (from entry at 18).

## WHITE ELEPHANT?

While the Defence White Paper 2016 [5] identified 900 additional positions across ADF in Information Warfare and Cyber (IWC) and Intelligence in addition to: 800 in MPA and Submarines; 700 in land combat and amphibious operations; 1100 for enabling capabilities, including for logistics, operational support, training systems and ranges, enhanced support to Navy engineering, force design, analysis and assurance and strategic and international policy; and, 800 for enhancements to the current and planned air and sea lift fleets, it is unclear how many will be allocated to Navy, and over what time frame.

## TOMORROWS NAVY?

*Insanity is doing the same thing over and over again and expecting a different result* – attributed to Albert Einstein.

Transformation will not transform if it normatively addresses capability exclusively in terms of IT and in isolation of core values; properly reflected in crewing needs. The current complementing model is potentially imbalanced; seemingly unable to simultaneously address critical crewing issues regarding 'Face of Navy' (bringing down the average age) and 'unemployment in the profession' (systemic gapping). 'Recruit only Women' policies [6] apparently now in place – while satisfying potentially socially-engineered, positive-diversity quotas – will not address existing and future crewing issues in and of themselves. They may, in fact, make matters worse.

A new crewing model is needed. A model that invests insufficiently in its [young] people and exploitatively more in 'existing technological, industrial, educational...research communities' and unproven recruiting policies, is unlikely to deliver. At the very least such policies should be treated as an 'experiment' that requires proper validation – preferably not in combat! Unproven recruiting policies may only perpetuate existing problems of 'lack of belonging'; further facilitating 'vulnerability to radicalisation', exactly by reducing opportunities for 'opting-in' (recruiting) amongst our under and unemployed youth (by some measures up to 25% – even more pronounced amongst young males). [7] There are also fundamental ethical questions to do with investing in Australia's inter-generational security that need reflecting in future crewing models – as for Army and RAAF. It is indeed 'a terrific problem to have' – but it is much more than that too. Recruiting (and counter-recruiting by weaponised radical organisations) is an existential question Australia and other Western democracies all need to urgently address.

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## 01 FUTURE SUBMARINE

Concern is growing about the sovereign capability vested within the Future Submarines program. South Australia State Government declared this to be a “ticking bomb”, after French designer DCNS (Naval Group) designated itself Design Authority and unitary-builder of the submarine, with no role for the SA-based Commonwealth-owned ASC. Redrawing previous Federal Government statements, DCNS boss Brent Clark did not endorse his predecessor Sean Costello’s assertion that ‘over 90 per cent’ of the \$50 billion submarine build – part of a broader \$89 billion defence spend – and indicating the company’s position was that local shipbuilder ASC would have no role in the project. Under questioning from Labor senator Kim Carr, Clark referred instead to a ‘gentlemen’s agreement’ he had with ASC chief Stuart Whaley ‘to make sure we’re not taking anyone out of his organisation with regards to sustainment’ of the existing Collins Class fleet. Under further cross examining by Kim Carr, Clark admitted that ‘it [was DCNS] intention to act actually as [both] the builder, and the Design Authority’, and that ASC would not be involved as builders.

Nick Xenophon, who also sits on the committee, said the evidence was ‘damning’, stating ‘1400 SA jobs are slated to be shipped to WA after the commencement of a Future Submarine build in 2023-24’:

*Let’s hope it doesn’t turn into an IKEA project, where all we do is bolt together a bunch of components that have been shipped to Australia from overseas.*

Later ASC issued a statement saying: ‘ASC is Australia’s sovereign submarine company, employing more than 1200 of Australia’s leading submarine platform personnel in South Australia and Western Australia’ maintaining that: Collins support ‘will be delivered through the In-Service Support Contract, while current and future support for the Future Submarine program will be delivered under appropriate commercial agreements’.

## NO TO NUCLEAR?

The case for Future Submarine Nuclear Propulsion was set out by Tony Abbott in June at a Centre for International Studies lecture. The case echoed in many respects the views set out by *The NAVY Magazine* over many years, and by John Strang’s two papers almost two years ago. The speech was well argued and powerfully made but unlikely to go anywhere fast. This is for a number of reasons, largely due to the weakness and inability of contemporary



French Navy Submarine SUFFREN being prepared for launch at DCNS Naval Group Yard in Cherbourg Dec 2016.

Australian Governments (of any hue) to respond empirically to the challenges Australia faces in the 21st Century. The sovereign capability argument is quite clear and ultimately convincing, which states simply ‘that for Australia to have a sovereign capability it needs to have the industry, skills and crews to sustain a civil nuclear program, in order to leverage a naval one’. It is true to reflect that in three years (from 1958) under General De Gaulle France made itself into a Nuclear power – with both Nuclear Energy and Nuclear Missiles to provide for an independent deterrence capability. Mistakes were made, and some aspects of France’s Nuclear Program took years to iron out. Nevertheless, today France is Europe’s and possibly the world’s premier nuclear-energy ‘power’. As contested by Dr Roger Thornhill (Sacré Bleu - Sous-Marin. *The NAVY Magazine of the Navy League of Australia* Vol. 78, No. 3, Jul-Sep: pp. 6-8) the selection of the Shortfin-Barracuda design only makes real sense if the propulsion plant is nuclear. And given the fact of France’s lead in Nuclear power and as the Future Submarine design and build authority, this all makes eminent sense. A position supported not simply by Tony Abbott but also by Andrew Shearer, Abbott’s National Security Adviser. Yet neither could deliver in office. Fast forward to the 2017 Finkel report. Noting the Government has yet to respond in detail, it failed to consider Nuclear Energy in the admixture. This potentially unethical report was biased significantly from the start – arguably only helping to prolong the agony of high-costs and lights going out, that much longer. If not unethical, the almost unempirical recommendations raise questions of morality – with limited focus on theory or delivery. Notwithstanding, the argument on RET targets whether adopted, or not, will almost certainly be

taken up and enforced by a future Labor Administration. In other words, the earliest Australia is likely to have any commitment towards Nuclear Propulsion is perhaps 2027; following yet further hugely expensive reviews. If it takes 15 years to then generate a civil nuclear energy industry, it would not be until 2042 that the RAN may be in a position to support a sovereign back-end capability in its submarines. It is important to consider what the world of 2042 might look like. A failure in today’s Professional Political Class is that they appear incapable of looking to the future – which by most yardsticks is likely to be more uncertain and unstable than even today. Yet only by making these courageous commitments today, may Australia influence that future in ways that may be benign to our children’s futures. Failure to adequately address the conjoined energy and Submarine questions, today, will impact our future, tomorrow. Yet few polities – nor Abbott and co. when in office – appear capable of holding that conversation.

## WHEN WILL THE BOATS RETURN?

Rear Admiral Mike Noonan AM RAN, Deputy Chief of the Navy joined Minister for Defence, Senator the Hon Marise Payne, Vice Admiral Peter Jones AO, DSC RAN (Rtd.) and veterans to dedicate a memorial on the site of ex-HMAS PLATYPUS, the decommissioned east coast submarine base, honoring all those lost while serving in Australian submarines. The ceremony also marked 50 years since the re-establishment of the RAN submarine capability in 1967. Minister Payne stated:

*For the past 50 years...the Australian Submarine Squadron, the silent service has been dedicated to duty. Australia’s submariners who served in the Oberon class of boats and at Platypus contributed greatly to Australia’s defense and*





HMAS NEWCASTLE (FFG 06) RAS in Gulf of Aden with USNS KANAWHA (T-AO-196) and Pakistan Navy Ship ALAMGIR (ex-USS MCINERNEY (FFG 8)).

wreath laying and a fly past from Air Force's 79 Squadron. The service was attended by members of Clearance Diving Team 4, with a dedication speech was given by the CO, Lieutenant Commander Michael Kerrisk, who outlined the variety of operational tasks at sea, ashore and in the air performed by Navy:

*In reading the history of all the units and the personnel involved, I hadn't taken on board that the Royal Australian Navy, were in essence engaged in an amphibious campaign for over 10 years."*

Vietnam Veteran's Day is commemorated on 18 August every year. It falls on Long Tan Day, when men of D Company, 6th Battalion, fought the Battle in 1966. The Fleet Air Arm is this year remembering the 50th Anniversary of the RAN Helicopter Flight Vietnam (RANHFV) and the formation of The Experimental Military Unit (EMU) with the US Army's 135th Assault Helicopter Company (AHC). There is continuing pressure to review some of the decorations made to RAN crews during their five-year campaign and to upgrade them.

#### 04 [WHAT'S] WRONG WITH OUR BLOODY SHIPS TODAY?

In making this comment at the Battle of Jutland (31 May 1916 – 1 Jun. 1916), Admiral of the Fleet David Richard Beatty, 1st Earl Beatty GCB, OM, GCVO, DSO, PC, sought both to draw attention to the inadequacies of designs that led to two of his ships exploding (HMS QUEEN MARY (I) and HMS INDEFATIGABLE (V)) and potentially his own failings. He reportedly said to Lieutenant W. S. Chalmers, Assistant Navigating Officer of HMS LION (16) at Jutland:

*There is something wrong with our ships...and something wrong with our system.*

In worrying about the system, Beatty may have been admitting the wider failing of command, leadership and the systems supporting the crewing of his ships. The ships in question were relatively modern – between 4 and 9 years old at the time of Jutland – and there were significant design issues. Without entering into the Jellicoe-Beatty debate, there were also clear failings in command, leadership and crews.

An examination into the increasing number of potentially life and ship threatening incidents impacting the Royal Navy was undertaken between 2009-2010. The ships examined were between 10-20 years old; with core designs going back to the 1970s. There were a number of factors included in the analysis:

*national security. The new memorial reminds all Australians of the unique and dangerous nature of the work submariners undertake for our nation.*

Minister Payne reaffirmed the crucial role played by RAN submarines in protecting Australia's prosperity and in ensuring maritime security:

*Our entire economy is dependent on secure and open sea lanes, and submarines are critical in keeping these lanes available for all nations to freely navigate the oceans. Submarines are a key asset in our efforts to enhance the stability and reinforce the rules-based order in our region; as well as reducing the risk of regional disputes or armed conflict. Our submariners' legacy continues with the Collins class submarine capability and into the future as we design and build a new class of 12 regionally superior submarines.*

The Memorial is part of an urban redevelopment project at the Platypus site. The question though does arise as to where the RAN will place its future east coast Submarine bases? At the launch of his paper on Australia's Submarines at *The Australia Club*, in August John Jeremy (author of Paper 4) argued that such a base might be developed in Brisbane. The alternative was to further develop Eden, but this was considered too far south for the non-nuclear Collins class and the Future Submarine. While recognising that the strategic importance of Garden Island, Fleet Base East made its retention of vital importance to Australia (and Navy), a new Submarine Base (perhaps at HMAS WATERHEN or PENGUIN) in Sydney was considered unlikely.

#### 02 HMAS NEWCASTLE ENTERPRISING AS EVER

HMAS NEWCASTLE, the first RAN warship to be awarded its own battle honours and not assume those from the RN, and currently wearing honours for East Timor 1999, and the Persian Gulf 2002-3, has continued its proud and steadfast service to country and Navy. She marked her second Operation MANITOU patrol with a twin RAS in the Gulf of Aden with USNS KANAWHA (T-AO-196) and Pakistan Navy Ship ALAMGIR (the decommissioned USS MCINERNEY (FFG-8)). The RAS presented NEWCASTLE with the opportunity to work-up with another Oliver Hazard Perry FFG class. NEWCASTLE's embarked MH-60R Seahawk Romeo helicopter was launched to record the evolution from the air. Seaman Boatswain Ben Robertson commented on the evolution:

*It definitely was challenging, the sun and the sweat are intense, which makes pulling off such a hard manoeuvre that much more challenging...when we broke away, with our song blaring over the speakers, it was one of the coolest moments I've ever experienced.*

NEWCASTLE is deployed on a 9 month Middle East tour in support of Australia's contribution to counter narcotics, and maritime security.

#### 03 NAVY REMEMBERS VIETNAM

RAN Commemorative services for Vietnam Veterans' Day took place across Australia on 18 August with Navy's Western Australian-based personnel attending services at War Memorials in Port Kennedy and the City of Joondalup.

The commemorative service at Joondalup remembered by the unveiling of a plaque honouring those that served in the Vietnam War from the Royal Australian Navy, a



- High personnel Turnover, 2-3 times as high as similarly sized engineering companies and service organisations.
- Systemic gapping
- Imposition of tick-box health and safety at work regimes (including individual liability) and
- the introduction of mandated equal opportunity and diversity legislation and training – often at the expense of professional training (both noted in the Haddon-Cave Nimrod Review);
- To compensate for gapping Ships tiered into different readiness states – lower readiness ships being robbed of equipment and personnel to support higher readiness ships; leading to systemic gapping, and reductions in morale ‘a who care’s attitude’.
- Endemic shortages of spares and reliance on ‘just-in-time’ single-providers (highly paid contract staff) referred to by numerous NAO audits.
- A reduction in education and sea-going experience (due to falling ship numbers)
- Increased emphasis on just-enough training, not always supported by effective synthetic training suites.
- Average on-entry ages moving right, sailors to 19-20, and Officers to 24-25 – more a job; less a vocation.
- Increased tempo, as ship numbers reduced and operational tasking remained – further stressing equipment and crews.
- As hull numbers reduced, Commanding Officers and Heads of Department appointed for shorter tours – often as little as 18 as opposed to 24-30 months – to enable accreditation.

The RAN experienced a similar period following the 1990 cuts; only being fully addressed in the last 5 years following the report by Rear Admiral Michael Uzzell, AM, RAN – with some way to go.

What had changed in the RN was not the equipment, most of which had been around for decades, but ‘the most important factor’ – the way the RN was recruiting, training and applying its crews. In other words, ship designs were no longer fitted to the crews, and the way in which ships were being crewed.

**Note:** For a more detailed examination of RN Command & Engineering, see Jonathan Foreman and Thunderer in *The NAVY Magazine* (2017), Issues 2 and 3, Apr-Jun, and Jul-Sep.

## THERE BUT FOR...

Fast forward to 2017, a year in which the USN has seen two guided-missile destroyers colliding with merchant ships within months of each other, causing \$millions in damage and costing the lives of sailors; a year that also saw a cruiser run aground in Tokyo Bay and another overrun a South Korean fishing vessel.

The Ex-Cold War, post 1990s peace dividend Forces (crews and equipment) that have been fighting almost continuously for the past 15 years were broadly designed about a 25-year life cycle. The wars in Afghanistan and Iraq while low intensity in many regards have nevertheless been persistent and draining in effect. The consumption rate has been two to three times that of peace time, for which the force structures were designed. For the UK Armed Forces, this meant they had effectively run out – were running on empty – from about 2009. SDSR 2010 literally put the boot in and SDSR 2015 appears likely to be doing more of the same. The U.S. Armed Forces always had a little more fat than the UK's. Nonetheless, by 2011/12 the US was also running on empty. In simple career terms, an NCO with 25 years peace time service may have expected to have had two operational campaign tours in that career. By 2011/12, most NCOs had had at least six operational tours since joining – and increasingly their reliefs were similarly stretched, if not gapped. The USN and USMC have traditionally deployed forward as much if not more so than Army and Air Force.

The USN and USMC effectively paid three times over for the wars in Iraq, the Middle East and Afghanistan: in blood; in ships not replaced or run-on and gapping in order to pay for the wars; and sacrifices to its future without new designs, ships and crews. It was exactly the same for the RN – there were times when, with FAA Harriers, the Royal Marines and Navy was 80% of UK forces on the ground in Afghanistan.

Jerry Hendrix, Director of the Defense Strategies and Assessments Program at the Center for a New American reported (Aug 2017):

*Something has to give, and right now, it's training. A year ago, or two years ago, it was maintenance, but now it's training. We're probably trying to make up training while we're underway during the deployment because there just isn't enough room in the schedule to get it all done.*

*It is simply not sustainable to have a 275-ship Navy that has 100 ships underway at any given time. The Navy needs to expand its numbers with smaller,*



Vice Admiral Phil Sawyer commander of U.S. 7th Fleet assumed command Aug 23.

VADM Phillip G. Sawyer USN is a native of Phoenix, graduated from the United States Naval Academy in 1983 with a BSc in Systems Engineering. He received a master's degree in engineering management from Old Dominion University. A career submariner, he has served in USS Bluefish (SSN 675); as engineer officer in USS Florida (SSBN 728) (Blue); and XO in USS Salt Lake City (SSN 716) and as CO of USS La Jolla (SSN 701) and Submarine Squadron 15 in Guam.

*cheaper surface combatants such as a new multi-mission frigate that can relieve high-end warships such as DDGs from mundane missions such as forward presence. With frigates relieving the DDGs from those roles, cruisers and destroyers can focus on high-end missions such as missile defense.*

*We need those 50 to 75 frigates – not to mention more fast attack submarines - to make up those gaps.*

As a result the collisions of USS Fitzgerald (DDG 62, launched 1994) and USS John S. McCain (DDG 56, launched 1992)) with civilian vessels Chief of Naval Operations Adm. John Richardson USN ordered an ‘Operational Pause’, similar to that called by USAF after a spate of B-1 bomber crashes. Where the USN has always differed from the RAN and RN is the immediacy of action taken against the Command. A case of being ‘cruel to be kind’ (as opposed to being seemingly kind to end up being cruel). Allowing ships and crews to move



on; enabling full exoneration and potential career restoration at Court Martial. In stark contrast to the RN handling of the HMS CORNWALL (F99) incident. Consequently, Pacific Fleet Commander Admiral Scott Swift USN went to Japan from Singapore to formally relieve Vice Admiral Joseph Aucoin, from Command of the U.S. 7th Fleet due to 'a loss of confidence in his ability to command'. As a result Vice Admiral Phil Sawyer USN took command of the U.S. 7th Fleet some 3 months early.

The issue is potentially as much generational as it is to do with the education and training provided to USN (and RN and RAN) crews. Put simply, the equipment has not changed fundamentally (in the last 30 years) – but the way we command, recruit, educate, train, mature, fit our people to be sailors – and expectations of them has! Contrast RAN Navigation training from the 1940s noted by one of the NLAs ancients: *Ancient's training: Nearly 4 years weekly nav training at naval college, then a year and a half on bridges of cruisers and destroyers, then a further 6 week navy course in UK, another 6 months at sea and then a watchkeeping certificate and selection on loan to be a navigator of a British Destroyer. And all the time instilled into us that there was no more important piece of equipment that we must use, than – THE MARK 1 EYEBAL*

### AUTO-PILOTED ASSISTED COLLISIONS?

The exact details of the collisions are unlikely to emerge for some time. However, recalling the introduction of Radar to sea in the 1940s and 1950s, there were a number of collisions (Merchant and Navy) then described as being 'Radar Assisted Collisions'. OOWs had begun controlling the ship from the Radar, rather than the Pelorus and the Mark 1. They failed to see the 'targets' in the blind spots of the scope and then to put 'eyes on', or direct those of the lookouts. Today, ships know exactly where they are, and there is a plethora of systems and outputs telling sailors and computers just that. But it would appear that they no longer know where they are going – crews are no longer fitting the facts known to them; to the known-knowns provide by the chart (and its datum); to the course they are steering; to the places they are heading towards, away from those they have come from. And the auto-pilots are, of course, doing what they have been told to do (if set). A case of auto-pilot assisted collisions? More seriously, and as a metaphor for modern life it may be a case of:

*knowing precisely where we are but with no idea where we are heading...*

### 05 TIME TO BRING BACK U.S. RESERVE FLEET?

Recognising, the pressure on hull numbers, Chief of Naval Operations Admiral John Richardson USN in a speech to the Naval War College stated

*that the Navy is looking at every trick to grow the fleet more quickly toward the Navy's goal of 355 ships, including extending the lives of ships already in the fleet and bringing ships back. One of the candidates for a comeback, he stated, was the Oliver Hazard Perry class frigate.*

President Trump had suggested that the Iowa-class battleships be re-commissioned during his election campaign, but this is not apparently being considered.

The Oliver Hazard Perry Class (FFG-7) became the benchmark surface warship design against which subsequent designs, be they Russian, British, Chinese, French, or German, drew their inspiration. Criticised at

economic reasons', this has not occurred. At exactly the moment when RAN requires more Destroyer capable ships (than three DDGs), and when the USN may be looking to recommission its FFGs.

### 06 GREENWHICH STATION AND WE THINK WE HAVE PROBLEMS...

The concerted attack to re-write history and paint out the past took another sinister step in the UK recently with UK Journalist Afua Hirsch starting a campaign to pull down the statue of Lord Nelson, arguing that he was a 'white supremacist'. Perhaps Hirsch may like to reflect on the African Sailor tending to Nelson as he fell, that appears on the freeze at the base of the column and Nelson's humble beginnings, including times of unemployment and underemployment – through to disability (losing an eye and an arm) and finally victory against tyranny in 1805 at Trafalgar. As if there is not enough real news going on?



HMAS SYDNEY (FFG 03) Being Broken up and Prepared for Sinking at Henderson Western Australia.

the time for being 'underarmed and lacking in redundancy', they were not regarded as being part of President Reagan's 500-ship Navy. In fact its design was to become the basis of the last Revolution in Naval Affairs (RNA), occurring exactly when previous ship-crewing failures were emerging in the 1970s and a rapid expansion of the USN was underway. Noting the current crises in the USN and RN – regarding ships and crews – it is suggested that revolutionary designs for ships and crews are again needed. An RNA is overdue, as suggested in one of the papers to be presented at the International Maritime Conference (Part of PACIFIC 2017), in Sydney, 3-5 Oct, entitled: *Awaiting the next Revolution in Naval Affairs*.

Despite the NLA Statement of Policy calling for: 'the retention in maintained reserve of operationally capable ships that are required to be paid off for resource or other

### TYPE 26 KICK OFF

The RN marked a major milestone in the development of its the Type 26 Global Combat Ship in August. The BAE Systems Type 26 will partially replace the Royal Navy's Type 23 anti-submarine variant frigates, with the first three Type 26s approved for construction by the UK Ministry of Defence as part of a £3.7 billion (\$8 AUD billion) contract. The Type 26 Global Combat Ship is one of three designs being considered by the RAN as part of the SEA 5000 Future Frigate Program, to replace the eight Anzac Class Frigates with nine high-capability warships. A 'steel cutting ceremony' was held at BAE Systems Govan Shipyard facility in Glasgow. Sir Michael Fallon, Secretary of State for Defence, said the commencement of the manufacturing phase of the Type 26 GCS was a milestone for the Royal Navy, Scottish shipbuilding and UK Defence more widely.



PLAN Chinese Ship LIAONING (16) arriving in Hong Kong - a Reminder.

## GIANT EMBARRASMENTS?

According to the veteran journalist (and Army supporter) Max Hastings (*Daily Mail*, 27 Jun 2017) HMS QUEEN ELIZABETH (R08) is 'a symbol of almost everything that is wrong with British defence policy', and 'giant embarrassments'. Hastings maintains that:

- It would have been better to build a couple of cheap 'n' cheerful naval platforms from which to launch drones and low-tech aircraft. For that, one could almost have welded steel plates on top of tanker hulls, to create acceptable flight decks.
- The Navy urgently needs a large flotilla of small, simple ships to guard our shoreline and look after our interests overseas in regard to piracy, illegal immigration, terrorism.
- Costs are already over £6 billion and counting, while until at least 2020 QUEEN ELIZABETH will do little beyond hosting ballroom dancing classes for her crew, as extensive sea trials are carried out.
- At the outset, Britain planned to put 36 F-35s on each carrier. So stupendous is their cost that this has shrunk to 12 – a naval officer commented: 'just so long as we can have enough to cover the flight deck in photos.'
- There is a multi-billion-pound hole in the defence budget, and especially in Navy funding, which seems likely to be filled by yet again slashing the Army, a deplorable and short-sighted expedient.
- [UK] defences and security are in poor shape, partly because almost all eyes, including those of ministers, are focused on the domestic terrorist threat, rather than on foreign state enemies.

## HISTORY LESSON FOR BORIS?

On a recent visit to Australia, the UK Foreign Secretary Boris Johnson bellicosely stated UK intentions to deploy their new 'colossal' carriers, as he described them, to the Asia-Pacific region. He subsequently toned down these comments at the Lowy Institute. Boris may not have read the fine print: only one carrier at a time will be maintained at high readiness and Royal Navy resources will be stretched to support even one carrier, including with suitable escorts, let alone aircraft. Assuming, that is, the RAF allows its precious F-35 Lightning IIs to deploy on extended operations far from the UK any time soon – and when it has enough to deploy, in the mid-2020s. Boris might recall that the last HMS PRINCE OF WALES deployed to the Far East to show the flag and deter Japan's attack against Singapore, met a tragic death due precisely to lack of air and escort cover. It is not yet in any ones interests to even consider the RN playing a future role in the region – particularly if it is only going to escalate tensions. Perhaps some humble pie and a re-invigorated RN, with escorts and support, might help first? It would be good to see the RN and the UK back with a purpose – but it has yet to demonstrate any such thinking and new designs and means for sustaining, building and crewing the Fleet. The current review of capability is likely to cut the RN and RM yet further.

## 07 PLANNING AHEAD

China's first operational aircraft carrier PLAN Chinese Ship LIAONING (16) arrived in Hong Kong in support of the visit by

President Xi Jinping marking 20 years since Hong Kong was handed back to China by Britain. The three-day visit culminated in a 30-minute speech warning that any challenge to Beijing's control over the city crossed a 'red line'.

LIAONING is 305 metres long, built nearly 30 years ago to Soviet designs and commissioned in 2012.

## PLAN PEACE VISITS DJIBOUTI

The PLAN hospital ship PEACE ARK arrived at Djibouti Port of the Republic of Djibouti August 24th for a 9-day visit. China has recently made significant investment in Djibouti, which is part of its One Road policy for connecting up and securing its Sea Line of Communications, as connected to the One Belt policy, or New Silk Road. The Hospital ship will treat local patients and send medical experts to local hospitals to carry out joint medical treatment and medical training.

## RUSSIAN NAVY ESCORTS CHINESE TANKER THROUGH GULF OF ADEN

The Russian Northern Fleet VITSE ADMIRAL KULAKOV destroyer escorted a Chinese Casco Jay tanker through the Gulf of Aden. The two ships met in the northern part of the Red Sea before heading east.

## CHINESE SHIP FIRST VOYAGE THROUGH NORTHWEST PASSAGE

A Chinese research icebreaker, The MV XUE LONG, made its first voyage through the Northwest Passage in what one expert believes to be a move to lay the foundations for China to sail cargo ships over the top of Canada – so extending its One Road policy. The XUE LONG, or Snow Dragon, will be 'the first time that an official Chinese vessel has gone through the Northwest Passage' according to Professor Rob Huebert University of Calgary: 'It is a new Chinese presence. It is very significant to note how the Chinese are becoming a presence near and in our Arctic waters.'

Canada requires foreign vessels ask permission before sailing through the Northwest Passage, an Arctic route the Canadian government considers internal waters. Foreign Affairs Minister Chrystia Freeland's office said Canada granted its approval on the basis that China was conducting scientific research. ■





## LLOYD'S REGISTER OF SHIPPING

Towards the latter part of the 17th Century, the commercial community interested in shipping, met at a small coffee house kept by a man named Edward Lloyd, first of all in Tower street and later at the corner of Abchurch Lane and Lombard Street in the City of London. The coffee house became the primary gathering place for merchants, seafaring men and marine insurers.

Edward Lloyd was a man of wisdom and enterprise and founded a system of commercial and maritime intelligence and a newspaper which he called Lloyd's News. However, Lloyd fell foul of the House of Lords over an article he had written; he was censured and his newspaper suppressed and it was not until 1726 that it was re-established under the name of Lloyds List. Lloyd's List now claims to be the oldest continuously published newspaper in the world.

In 1770, the frequenters of the Coffee House, whose particular business was underwriting marine insurance formed themselves into an alliance, ultimately established as the Corporation of Lloyd's. The underwriters of Lloyd's found that they needed complete information on the construction and condition of ships in order to insure them and so was established, Lloyd's Register of Shipping (LRS).

The information is provided by LRS, the Classification Society, which employs thousands of surveyors in ports around the world to oversee the construction of ships, supervision of repairs and to carry out regular inspections of ships to ensure that they comply with their classification rules and to report to LRS, London.

This information is published for

Underwriters and other interested parties and is found in what is known as Lloyd's Register, an annual publication currently available in 4 volumes totalling 8,759 pages and a snip at \$3,950, delivered.

The Register contains, in abbreviated form, the physical details and survey history of all self-propelled seagoing merchant vessels over 100 Gross Registered Tons. The amount of information, contained in 16 narrow columns and a few lines is amazing, e.g.— Official No., Signal Letters, Name and former names, Class, Construction Material, Port of Registry, Ship Type, No. of Decks, Double Bottom length, Tanks, Where, When and by Whom Built, Owners, Special Survey Date, When & Where Carried Out, Vessel Length, Breadth, Depth, Freeboard, Machinery - Cylinders, Stroke, Boiler Pressure, Manufacturer, Shaft details etc.

You will have heard the expression +100A1 at Lloyds - " + " (properly called a Pattee cross or Maltese cross) means the ship was constructed under survey by Lloyd's Register surveyors; "100" means the ship is suitable for seagoing service. "A" means the ship was constructed or accepted into LR class and is maintained in good and efficient condition. "1" means she has good and efficient anchoring and mooring equipment.

Though probably best known as a classification society for shipping, LRS now provides global engineering, technical, quality assurance and business services to shipping, the offshore and gas industries.

Though Lloyds Register of Shipping is perhaps the best known society, there are a number of other societies, some associated with national insurers, Det Norske Veritas (DNV - Scandinavian); Bureau Veritas (BV - French); American Bureau of Shipping

(ABS - American); Nippon Kaiji Kyokai (NKK - Japan); which all perform a similar role and have similar Rules and construction standards.

Classification standards are internationally recognised and most governments now rely on Classification Societies to oversee the maintenance, survey and safety standards of their flag shipping.

LRS is now also entrusted with the supervision of construction of much of the world's Naval shipbuilding.

## OVER-EXPOSURE OF GERMAN BANKS TO SHIPPING

Since 2014 financial pundits have been warning of the German banks exposure to shipping.

German banks are struggling to recoup billions of dollars of loans as the decade long shipping slump hits home. Their exposure originally believed to be around \$ 100 bn, but given that the value of 70% of the loans has fallen, banks are believed to be stuck with about \$150 bn in distressed debt more than a quarter of the estimated worldwide debt of \$400 bn.

The risk stems from prior to the Great Financial Crisis of 2008 when closed investment funds - called KG Houses - encouraged doctors, dentists and high wealth individuals to become shipowners, buying ships and leasing them to shipping companies. At its peak the Houses, had 440,000 investors encouraged by big profits and tax incentives investing in ships which were chartered to international companies.

Then after the GFC, came the slump and companies such as the South Korean shipping line, Hanjin collapsed - a company of 98 container ships and a total fleet of 142 of which only 38 were self-owned. Most of the large shipping companies have very similar ownership to charter balances so that the entire sector is exposed.

As an indication of shipping fortunes, prior to the slump, Very Large Crude Carriers or Bulk Carriers were earning up to \$ 200,000 per day, now the same vessels are earning \$ 10 -15,000, barely enough to cover wages and running costs.

Shipping was always a less speculative business, traditional owners knew that the industry was cyclic but were in it for the long haul. Then the smart new financial whizz kids, the Student Princes, with no knowledge of the industry or loyalty and suckered by the market parvenus arrived.

That's shipping in the 20th and 21st century.

Lloyds Register Building with the new building in background.



# RESPONSE 1: THE NAVAL SHIPBUILDING PLAN – A FATALY FLAWED FANTASY

By Andrew Baird and Neil Baird

The second author spent a recent evening reading the Australian Government's NAVAL SHIPBUILDING PLAN [1] from cover to cover. It was a very painful exercise, at the end of which it was only possible to conclude that much of its content is fantasy. The whole experience brought back memories to him of working as a financial journalist in the early 1970s and the amusement of reading the prospectuses of mineral exploration companies. They were written in the same vein as the PLAN and their analysis, expectations, budgets and forecasts were similarly ridiculously optimistic. Invariably, their subsequent performance proved that.



Department of Defence Naval Shipbuilding Plan 16 May 2017.

## INTRODUCTION

The badly thought out 114 page undergraduate course-work thesis, known grandiosely as 'The PLAN' – not to be confused with the [Chinese] Peoples' Liberation Army Navy (PLAN), which clearly has a plan – looks more like it has come from a Social Welfare Department than from Defence. More welfare than warfare? It should be torn up and begun again. This document purporting as a paper purporting

as a plan, is one of the silliest fantasies seen in recent years. And we have been privy to some beauties over the years, especially among the above-mentioned exploration company prospectuses. The tragedy is that our politicians don't seem to understand and their bureaucratic advisors have proved to be both careless and clueless. The economic models, estimates and technical advice are invariably hopelessly optimistic. Yet this expensive but near-worthless advice has been followed assiduously by both LNP and ALP governments with the same results. We just keep banging our heads against the same old brick wall.

## PLANNING BLIGHT

*We will transform our naval shipbuilding and ship sustainment industry here in Australia: with Australian workers, in Australian shipyards, and using Australian resources. This is truly a national endeavour – involving all States and Territories, industry and the education and training sector – to achieve the Government's ambitious agenda for naval shipbuilding. [1]*

The PLAN has been produced by the same Canberra government that cannot work out how to make our brand new and expensive pocket aircraft carriers operate under their own "steam" – in other words to retain in-house the knowledge capability necessary to repair, sustain, propel and design our own Fleet. The same government that now, after almost four years in office, has been unable to rectify the budgetary insanity of its Labor predecessor. That means we have now had nine consecutive years of large, un-planned and unnecessary deficits. How can we trust this bumbling government to get its sums right? How can we trust it to make the right purchasing decisions for us when its record is so appalling?

As with recollections of mining prospectuses past, the PLAN brought back memories of Year 11 economics classes. Even in the 1960s, we studied, analysed and ridiculed the Soviet Union's Five and Ten Year Plans. As sixteen year olds we could see how unrealistic their plans were, and The Shipbuilding Plan is similarly unrealistic. Furthermore, this PLAN is even less likely to be realistic extending as it does over 24 years. Even the Soviets weren't that delusional.





Chinese Navy PLAN Type 22 Stealth Fast Attack Craft.

## A POX ON ALL OUR HOUSES?

*Delivering the naval capabilities that the Government announced in the 2016 Defence White Paper is predicated on four key enablers:*

- a. *a modern, innovative and secure naval shipbuilding and sustainment infrastructure;*
- b. *highly capable, productive and skilled naval shipbuilding and sustainment workforce;*
- c. *a motivated, innovative, cost-competitive and sustainable Australian industrial base underpinned initially by experienced international ship designers and builders who transfer these attributes to Australian industry; and*
- d. *a national approach to delivering the Naval Shipbuilding Plan. [1]*

One thing the PLAN does have is continuity with previous examples of “well thought out” spending by previous governments. The former PM Rudd’s “back of a beer coaster” NBN plan that has left us with internet speeds that are on average less than 10% of their design capability. Or, perhaps, our best forgotten Army and Navy helicopter purchasing disasters, or our Defence personnel record system. What about the unfolding tragi-comedy of the short range and ever more obscenely expensive F35 Lightning II fighters? And, even worse, the unfolding disaster that is our gas and electricity energy market. There, both states and Commonwealth have conspired, on the basis of a renewables dream, to give us the worst of all possible worlds.

To be fair, one should probably have started reading the PLAN from the back as that is where the “let out” clauses, caveats and conditions are printed. The Prime Minister was trained as a lawyer, after all. Messrs Turnbull and Pyne do, in Chapter 7.2, allow that the PLAN carries “significant risks”. Amusingly, the final paragraph of the PLAN reads, in part:

*The spending is already fully costed within the Government’s funding plan.*

Presumably, that costing was conducted by the same accountants who signed off on the NBN and the F35? Unsurprisingly, the 2017 PLAN is not terribly different from a succession of discredited Defence PLANS and white papers past. The government still seems to be chronically incapable of distinguishing between WELFARE and WARFARE. It has no clue as to whether it is buying jobs or defence security and even then confuses security with *sûreté*. Remember Foch? He called for both *élan* et *sûreté*. But the pre-WWI French polities and their non-chocolate generals [2] concentrated on *élan* only [3] – almost costing us the First World War in July / August 1914, in addition to 1,000s of lives. [4]

The PLANs basic premise is totally confused. Is the government owned ASC, which is at the heart of the PLAN, a sheltered workshop “make work” agency, or is it a naval shipbuilder? It cannot be both.

While one cannot agree with all the government’s choices of ships, the Minor Naval Vessels such as OPV/Corvettes and mine hunters look fine. It’s the bigger stuff like the enormous frigates where the choices, costings and the twenty-four year event-horizon look very dodgy. DCNS/Naval Group seems the best choice for sub builder but, why not, say, five big nuclear submarines for long range patrols and intelligence gathering and ten small littoral subs for coastal protection? All, in any case, should be built in France, certainly not in Adelaide.

## BEYOND THE HORIZON

Has anyone in Canberra looked at charts of our adjacent northern seas, for example? They are shallow. Rather like the “Narrow Seas” between England and Europe. Has anyone compared the costs of guided missiles with shells? Guns or small, shoulder-fired missiles would be far more economical than large missiles or torpedoes for the kinds of interdiction likely to occur close to our northern coasts. We don’t need sledgehammers to crack nuts.

“Economical”, however, is not a widely recognised word in Defence or Treasury circles. It would, as the second author has often written before, be far more economical to let our chosen shipbuilders build our ships in their own home yards, not in expensively rebuilt yards here. And, please don’t regurgitate the silly old argument about maintaining skills and competency here. We don’t build diesel engines or gas turbines or gearboxes here. Nor do we manufacture much in the way of electronics or propulsion systems. The Airforce doesn’t expect its aircraft to be built here. So, why our warships?

Australia is the world leader in large fast craft, some of them can operate at over 50 knots with diesel power. The Chinese Navy builds fast attack craft designed in Sydney and the United States charts our ships. Again, very strangely, the RAN appears uninterested. It is tragic that no one involved with defence purchasing seems ever to have read David Ricardo who, exactly 200 years ago, espoused James Mill’s thoughts on the law of comparative advantage. [5] Our aluminium builders possess a very distinct comparative advantage, but our enlightened masters in land-locked Canberra don’t see the value in their designs – or keeping the energy costs competitive to maintain what industry we have!



USS MANCHESTER (LCS-14) Built by Austal in Alabama will be commissioned in Portsmouth in early 2018.



2nd Battalion, Royal Australian Regiment disembark from HMAS CANBERRA LLC Landing Craft during Exercise Talisman Saber July 2017.

The Canberra “cultural cringers” have also failed to read history. In World War II we put too many of our warship eggs in too few baskets in the form of a fleet of cruisers, the majority of which were lost early on, in 1942 – as we are remembering today in 2017, 75 Years later. The Germans made much the same mistake by building a fleet of very powerful capital ships which were really of little use. Rather, they were expensive to build, crew, maintain and, very importantly, protect. On a cost/benefit analysis, they were not worth the effort. Their comparatively cheap U-Boats and S-Boats were far more cost effective – and almost brought the Allied War effort to a halt in 1942.

## KEEP STEPPING ON THE SAME RAKE

Sadly, we seem to be following that course again with our grossly expensive, late delivered, sitting ducks of LHDs, AWDs and, potentially, cruiser sized frigates. Given the availability of comparatively cheap, Mach 3+ capable sea-skimming anti-ship missiles, we need more eggs in more baskets.

Instead of dictating that the ships and submarines be built in Australia, why not specify a contract that seeks to provide the tax-payers with that rare commodity “value for money”? For smaller vessels, under 120 metres for example, it will make sense to build here, but for frigates and submarines we must build overseas. History should have taught us not to waste time and money with a repeat of the Collins fiasco in Adelaide. Buy complete submarines and ships ready to go from Europe but, again, more eggs in more baskets.

The dreaming unfortunately extends beyond the government, as evidenced in a recent press release from defence contractor BAE:

BAE claimed that Australia, more particularly South Australia, could export frigates and other warships from Adelaide [6] [if, presumably, BAE gets the nod for our future frigates].

Has the company’s PR person no knowledge of even quite recent Australian history? Unsurprisingly, Defence Industry Minister Pyne endorsed BAE’s nonsensical release.

Fewer than twenty years ago ASC indulged, with Canberra’s support, in an “export” adventure. In that case it was intended to help our Thai friends to build some landing ships and patrol boats via a joint venture. Needless to say, the Thais are unlikely to ever again get involved in such a folly. Nor, probably, will any other Asian government that can recall it. The authors can’t see any Asian or other government wanting to buy a European designed warship that is built in Australia:

They’ll go straight to the “horse’s mouth” every time. They certainly will never want anything that has been given the ASC’s “kiss of death”.

Canberra, now in its ninetieth year, is as infected as ever with a congenital condition of “gold-plated-itis”. We always have to buy the biggest, flashiest and most expensive. The cheaper, local option is rarely, if ever, considered. What is needed is totally new and realistic capital spending disciplines introduced and enforced.

Of course, we should buy local but, if foreign is better, cheaper and quicker, we should import. We should encourage local builders and suppliers to supply us by putting fewer time-wasting bureaucratic obstacles in their way, not by subsidising them. At the same time we should be more transparent in our tendering. The recent deal for a landing craft gifted to Tonga looked very dodgy. So, too, do the landing



USMC Landing Craft Air Cushion (LCAC) deploying from USNS Montford Point (T-ESD-1) RIMPAC 2014.

craft purchased for our LHDs and the life-rafts and evacuation chutes for the LHDs and other vessels. Why did those orders go offshore when they could have been built better and cheaper here – and actually have worked (for example, been able to carry tanks), first time? It is very suspicious.

Canberra seems consistently to push us into the worst of all possible worlds. We insist on building big steel vessels in local “sheltered workshops” when it would be far more time and cost efficient to import yet we ignore our world leading aluminium shipbuilders and equipment manufacturers. Even when we build steel vessels locally, large slices of the real work and profits go offshore to foreign shipbuilders and defence manufacturers. What are we really trying to achieve?

We should take a very hard look at what our real defence requirements are right now, not in 24 years. Anyone who can predict that far out





PLAN YJ-12A Hypersonic Anti-Ship Missile Launch Oct 2016.

is wasting their time in Canberra, they should be making a killing in the share market. Who is likely to attack us and with what? How will they get here?

## HOPE IS NOT A PLAN...

*The Government's Integrated Investment Program, released alongside the White Paper, will provide both Defence and Australian industry with the consistency and certainty they need to plan and implement what lies at the very heart of the Government's plans – the largest force modernisation program in Australia's history. The spending is already fully costed within the Government's funding plan.*

*The program will not only provide a roadmap for the next 10 years, it also provides advice on broader investment plans in the following decade to 2036.*

The Hon Christopher Pyne MP Minister for Defence Industry. 7 December 2016.

China has done that, developed a plan based on thinking and system designs. They have come up with some very cost effective solutions that have put the wind up the Americans. They have even developed a substantial fleet of missile attack "carrier killer" catamarans that feature hulls designed in Sydney. These small craft are equipped with million dollar, supersonic anti-ship missiles. A volley of these weapons delivered to our LHDs is a miniscule investment compared to the tremendous pain that will be inflicted.

We need to develop a similar mindset. For the price of one LHD, we could have ten, better armed, faster, shallower draft, more reliable

aluminium catamarans from Austal or Incat. Again, more eggs in more baskets and less chance of losing a whole battalion of troops in one attack. They would also be incomparably more useful in the disaster relief role than are the LHDs. These craft are also more survivable, the recent attack on the Incat-built Swift off the coast of Yemen shows better than any simulation the benefits of the design.

What about a fleet of very fast diesel powered catamaran missile gunboats like the aforementioned Chinese ones? Australia is one of the leaders in hypersonic research and the US Navy recently told industry that it needs hypersonic weapons. Why not use our advantage there and invest in turning research into development and put a few such missiles onto fast cats?

These hypersonic missiles would also be suitable for loading on our soon-to-arrive P-8 Poseidon maritime patrol aircraft, as well as containerised variants that can be launched from truck and rail along our northern coastline with targeting data supplied by our Jindalee over-the-horizon radar.

## GET SERIOUS, OR GET OUT OF THE KITCHEN

Then, of course, we need to think about how, realistically, we are going to build and crew these vessels locally. We don't need large fleets unless a real war threatens. Then, because we have the proven capabilities with our aluminium builders, we could build larger fleets quickly. Meanwhile, a few prototypes could be built to get the design, equipment, construction techniques and operational doctrine right for future series production.

Such vessels, in the event of a serious war, would normally be manned and commanded by reservists. Yachtsmen, fishermen, OSV and fast ferry officers and crews and similar who have seagoing experience and know how to handle boats of their size and capabilities. In peacetime, they would permit earlier command and engineer experience than would normally be available on bigger, more expensive ships. We could expand fleets and their crews quickly when and if needed using our own resources, especially if we could arrange to start making appropriately sized diesel engines, gearboxes and waterjets here under licence.

Lastly, we also need to get over the old myth, propagated by our Canberra masters, that we are too stupid and under-educated to go nuclear. Look at what France did in the three years from 1958. We know a lot more about nuclear now than the French did then. Why not combine a nuclear sub fleet with the development of small nuclear power stations that John Strang suggested in this magazine two years ago? [7] The French would be happy to share the benefits of their experience with us, I'm sure, particularly if we buy nuclear subs from Naval Group! ■

### NOTES / REFERENCES

1. AS-DOD. (2017) Naval Shipbuilding Plan (16 May). In: Minister for Defence Industry Christopher Pyne (ed) *Complementing the 2016 Defence White Paper, Integrated Investment Program, and Defence Industry Policy Statement*. Canberra: Commonwealth of Australia Department of Defence.
2. The non-professional Chocolate Soldiers fought and won at Milne Bay and Kokoda, and in *Arms and the Man* (1894) George Bernard Shaw's professional hero Captain Bluntschli carries Chocolate-Creams in his ammunition pouches, exactly because he finds these more useful in warfare! Bluntschli asks the heroine Raina Petkoff to remember that "nine soldiers out of ten are born fools."
3. Espoused originally by Foch in his prewar book *Les Principes de la Guerre* as a combination of "élan" and the "sûreté" of the elements provided by firepower, discipline, and tactics to protect the "offensive à outrance". The idea was taken forward by Colonel Grandmaison and others as one of élan not of sûreté – offence at the expense of defence.
4. See Tuchman B. (1962) *The Guns of August*, London and New York: Macmillan.
5. Ricardo D. (1817) *On the Principles of Political Economy and Taxation (First Edition)*, London: John Murray.
6. See Australia Bets \$68 Billion Navy Spend on Global Export Industry, by Jason Scott 6 July 2017, <https://www.bloomberg.com/news/articles/2017-07-05/australia-bets-68-billion-navy-spend-on-global-export-industry>
7. See John Strang in Australia and its 21st Century Defence Needs: Submarines, Part I and Part II. *The NAVY Magazine of the Navy League of Australia* 2015 Vol. 77, Iss. 4, Oct-Dec: pp. 5-9, and 2016 Vol. 78, Iss. 1, Jan-Mar: pp. 6-10.

# RESPONSE 2: THE NAVAL SHIPBUILDING PLAN – CHALLENGES AND OPPORTUNITIES

B John Jeremy

**In May the Commonwealth Government released its long-awaited Naval Shipbuilding Plan. The plan sets out how the Government plans to deliver on the ‘commitment to build a strong, sustainable and innovative Australian naval shipbuilding industry.’ Furthermore it ‘provides the foundation for implementing the Government’s unprecedented commitment to the greatest regeneration of our country’s naval capability since the Second World War. At the same time it will create a long term, sustainable naval shipbuilding and ship sustainment capability that will serve our strategic and economic interests for many decades’. [1]**

## INTRODUCTION

This plan to sustain naval shipbuilding capability in Australia is not the first. With the end of World War II in sight, in April 1944 the War Cabinet approved the construction of a cruiser at Cockatoo Dockyard in Sydney and a destroyer at the Williamstown Naval Dockyard in Victoria. The decision was foreshadowed as a possible start of a ten year naval building program. Later that year the cruiser was changed to another destroyer. These ships became the Battle-class destroyers HMAS ANZAC and HMAS TOBRUK.

## FORWARD PLANNING

A year later, in April 1945 the Naval Board submitted further plans to the Government for post-war naval construction including four more destroyers to be built in the same yards as part of a program to build twelve destroyers over ten years. A decision was deferred pending further consideration of post-war defence requirements. In August 1945 Cabinet approved a planned naval construction program to ensure stability in the shipbuilding industry. In January 1946 the Navy urged approval for the construction of additional destroyers if the Government policy was to be implemented in an ‘orderly and economic manner, and continuity of employment on naval shipbuilding is to be assured.’ [2]

Both the shipyards were owned by the Commonwealth — Williamstown was a Naval Dockyard and Cockatoo Dockyard was operated by a private company. In the latter case, trading arrangements were governed by a Wartime Agreement, signed in 1941, which provided for the company to be reimbursed the actual cost of work undertaken for the Commonwealth with a reward to be paid by means of a modest management fee. A separate order was placed with Cockatoo for the manufacture of the turbines and boilers and other parts and fittings including furniture, watertight doors and hatches, bollards and fairleads etc. for all four ships. Gun mountings and torpedo tubes were to be manufactured by the Department of Defence Production at the Ordnance Factory in Bendigo, Victoria.

The priority for the project was clear — ‘to ensure the maintenance of shipbuilding capacity in Australia’ — and not the construction of ships for the RAN in the most economical manner. Treasury’s control and limitations on the annual rate of expenditure were to have a considerable influence on the progress of construction [3].

The outbreak of the Korean War and the acquisition of two aircraft carriers for the RAN stretched available finances and, following

a review in April 1953, one Tribal modernisation (BATAAN) was cancelled and one Q-class conversion (QUALITY) was deferred indefinitely, and the construction of the fourth Daring-class destroyer (WATERHEN) on order from Williamstown was cancelled [4].

Meanwhile, in July 1950, Cabinet had approved the construction at Cockatoo and Williamstown of six Type 12 anti-submarine frigates at a total estimated cost of \$14 million. The ships took the place of further destroyers which would otherwise have been needed to maintain continuity of naval construction as, at the time, it was expected that the Darings would all be completed by the mid-1950s [5]. Two of these ships were cancelled following the 1953 review.

The Daring-class destroyer program took much longer to complete than expected when the orders were placed. The first, HMAS VOYAGER was completed in February 1957, the Williamstown ship HMAS VENDETTA was completed in 1958, and the last, HMAS VAMPIRE, was completed in 1959. The factors which delayed with the Darings also affected the program for the frigates, which had been planned for completion by 1957. In particular, targets for the supply of technical information from the UK and the availability of labour and equipment were rarely met. By 1954 the Daring construction plan was close to that actually achieved and the construction of the Type 12s began in 1955. All four were expected to be completed by 1962. There was some further slippage in the program, not least caused by major changes to the second two ships to incorporate the Australian-developed anti-submarine guided missile Ikara, but all four were completed by 1964 [6].



HMAS ANZAC II (D59) operating off Korea from the flight deck of HMAS SYDNEY (III).



## CONTROL BY REVIEW

The naval construction programs of the period were not subject to significant external monitoring and review. The Defence Industry Committee (DIC) was one body of review and advice which was asked in the late 1960s to review the way naval construction contracts were placed. The Committee's report of December 1969 recommended that all future contracts be placed on fixed price or fixed price incentive contracts (the latter a contract form used before World War II and extensively used overseas) and not committed until ship designs were sufficiently advanced. It also endorsed the plans of the time to continue naval construction in the two yards, Cockatoo and Williamstown, noting that, after consultation with the commercial shipyards, the two yards were the only ones with the necessary capability to undertake naval work with a minimum of assistance.

The DIC review of 1969 was conducted in the context of the DDL and AOE projects planned for Cockatoo and Williamstown which were both cancelled in 1973. Whilst construction continued at Williamstown with HMAS COOK and the two Australian build FFGs, the continuity was broken. New ships were to be based on existing, proven overseas designs and new projects were treated as stand-alone projects, not as part of an industry plan. The naval shipbuilding industry was regarded as a supplier when needed, not a component of the total defence infrastructure. An unfortunate consequence of this change was the loss of much of the capability which had been created during the preceding decades.

Further change occurred after 1987 with the closure of Cockatoo Dockyard in 1991 and the sale of Williamstown. The construction of the Collins-class submarines began in a new facility in Adelaide with a new workforce. Whilst this project had its share of problems, its completion was a major achievement for Australian industry. The Anzac-frigate program at Williamstown was a notable success, not least because of the construction of ten near-identical ships



HMAS VENDETTA II (D09) On her launching at Williamstown Dockyard 3 May 1954.

Both the shipyards involved were Government owned (although one was operated by a private company), and the Commonwealth was responsible for investment in facilities. Apart from initial investment for the construction of the all-welded ships and their machinery, little was done to improve the standard of the facilities until detailed plans were developed in the mid-1960s to improve both yards in the context of the subsequently-cancelled DDL and AOE projects.

The RAN ordered the ships directly (through Navy Office) and was responsible for technical direction, oversight and acceptance, and the contract arrangements were simple. The shipbuilders were paid the actual cost of construction, with a management fee added in the case of Cockatoo. The Wartime Agreement with Cockatoo Dockyard was slightly modified by the Trading Agreements of 1956 and 1963 but, effectively, World War II did not end contractually until 1972. There was no incentive for either yard to improve productivity. Both yards were on constrained and less-than-ideal sites.

The design of both classes of ship was at an early stage of development when the programs began, meaning that initial estimates of cost were really educated guesses. The design detail of the Australian Darings and Type 12s was subject to constant change. The priority was to build good ships which incorporated the latest available improvements, not to construct ships for the RAN in the most economical manner.

The continuous workload over nearly three decades provided the continuity needed to train people and develop technical skills, particularly with the modification of overseas designs for Australian requirements. This is well illustrated by the construction of the last two Type 12s, TORRENS and SWAN, ordered in 1964 as repeats of STUART and DERWENT, the ship design was extensively modified during construction and two very high-quality ships were produced, albeit with a two-year delay to completion and considerable increase in cost.



Australian Designed and Built IKARA (Throwing Stick) Missile and Launcher on Trial with HMAS YARRA III (DE45) in Foreground.



HMAS SWAN III (DE50) on Launch at Williamstown Dockyard 16 December 1967.

maximised the learning and economies of scale. There was, however, no follow through and, by the time the construction of the air-warfare destroyers was begun, much of the skill-base developed during the late 1980s and 1990s had again been lost. The construction of the three ships was centred on a new facility in Adelaide, based on an overseas design from a different shipbuilding culture and different language, modified for Australian requirements. It is not surprising that this project also had many problems in its early years.

## CONTINUITY IN SHIPBUILDING

For many years industry and others, including Defence, had argued for continuity in naval shipbuilding in Australia, citing the need for strategic independence and the maintenance of capability to sustain and modernise our own ships in country, but these arguments fell largely on deaf ears. In May 1995 the Defence Industry Committee completed a major review of the ship construction and repair industry and made a number of recommendations in regard to industry's capability to meet future Defence requirements. The DIC report emphasised the need for planning in Defence shipbuilding and refit programs in order to sustain industry capabilities [7]. There have been further reports and recommendations with the same theme. More recently, the Future Submarine Industry Skills Plan of 2013 recommended that 'planning of the whole scheme of naval shipbuilding programs should be optimised to provide industry more predictable, better sequenced and long term work; the necessary foundations for innovation, business investment, productivity and performance improvement' [8].

This 2013 report drew upon work by the RAND Corporation, and it was another RAND report in 2015 specifically addressing the future of naval shipbuilding in Australia which has particularly influenced the development of current government policy. While noting that the economic benefits of a domestic naval shipbuilding industry are unclear the report concluded that 'controlling critical production offers wider strategic benefits and flexibility. It would avoid dependence on foreign sources; enable performance of ship alterations, modernisations and life-of-class maintenance; and support in-country suppliers. Sustaining a naval shipbuilding industry will require specific steps. These include adopting a continuous build strategy starting with the future frigate and matching industrial base structure to demand' [9]

## THE PLAN

The 2016 Defence White Paper forecast the acquisition of 12 submarines, with the first to enter service in the early 2030s, and an on-going program to maintain that number through the 2050s and beyond; nine future frigates optimised for anti-submarine warfare to enter service from the late 2020s to replace the eight Anzac-class frigates and 12 offshore patrol boats to replace the Armadale-class patrol boats, all to be delivered by 2030. This program is the foundation for the Naval Shipbuilding Plan.

The Plan is stated to require:

- a. a modern, innovative and secure *naval shipbuilding and sustainment infrastructure*;
- b. a highly capable, productive and skilled *naval shipbuilding and sustainment workforce*;
- c. a motivated, innovative, cost-competitive and sustainable *Australian industrial base*, underpinned initially by experienced international ship designers and builders who transfer these attributes to Australian industry; and
- d. a *national approach* to delivering the Naval Shipbuilding Plan. [10]

The Plan is based on the construction of the new submarines and the frigates in Adelaide, at an expanded site at Osborne, the present location of ASC, the government-owned shipbuilder of the air-warfare destroyers (ASC Shipbuilding) and the maintainer of the Collins-class submarines (ASC Submarines). The construction of the first two offshore patrol vessels is also planned to begin there next year, moving to Henderson in Western Australia when the construction of the new frigates starts, scheduled for 2020.

The Government has selected Naval Group of France (previously known as DCNS) as Australia's submarine partner and early stages of the design the new submarine, based on the French Barracuda-class nuclear submarine, have begun. A design office was opened in



The short-lived problematic Oceanographic Survey Vessel HMAS COOK (A219) alongside Garden Island Fleet Base East in early 1980s.

Cherbourg on 9 July this year and 50 Australians will join employees of Naval Group and Lockheed Martin to develop the submarine's design. Construction of the first submarine in Australia is not scheduled to begin until 2022–23.

A competitive evaluation of three designs for the offshore patrol vessel, by Damen of The Netherlands, and Lürssen and Fassmer of Germany, is in hand with a decision likely around the end of 2017. Three designers have been invited to tender for the design and construction (in conjunction with Australian partners) for the new frigate — BAE Systems with an Australian version of the Type 26





Collins-Class Submarine in Australian Marine Complex Henderson Floating Dock near Fleet Base West.

frigate, Navantia with a frigate based on the AWD hull, and Fincantieri with a version of the FREMM frigate. All are significantly larger than the Anzac frigates which they will replace.

Facilities at Osborne in South Australia were originally established for the construction of the Collins-class submarines, parts of which were constructed at other locations for assembly in Adelaide. Adjoining facilities, Osborne South, were built alongside at the South Australian-government developed common-user facility at Techport for the assembly of the air-warfare destroyers. A large proportion of the modules for these destroyers were built elsewhere. Some modules were imported from Spain and more were built by BAE Systems at Williamstown in Victoria and Forcacs in Newcastle, New South Wales. For the small number of ships this was a practical approach, reducing the necessary size of the workforce in Adelaide but considerable cost was incurred shipping modules around Australia and from Spain. The present facilities at Osborne are not, however, adequate for the frigate project.

## PLANNING AHEAD

In May this year the Commonwealth Government bought the common-user facility and surrounding parcels of land from the South Australian Government for \$230 million. The additional land will enable a substantial increase in the size of the shipbuilding facilities and in December 2016 redesign of the facilities there was begun by the Department of Defence with the assistance of Odense Maritime Technology of Denmark to provide a modern, secure shipyard for the construction of the new frigates. The government expects to spend some \$535 million on the new Osborne surface ship construction facilities with work beginning around the end of 2017, to be complete by the second half of 2019 to enable the start of construction of the new frigates in 2020.

The present facilities at Osborne North, currently used by ASC Submarines for the full-cycle dockings of the Collins-class submarines, are inadequate for the construction of the new submarines, and plans are expected to be completed in conjunction with Naval Group next year for the redevelopment of this site. The reconstruction cost is expected to be similar to that at Osborne South.

The shipbuilding facilities in South Australia are to be owned by a government owned company, Australian Naval Infrastructure Pty Ltd and, presumably, leased to the selected frigate and submarine builder. At this stage the involvement of ASC Shipbuilding is not clear, although they have announced a partnership for the frigate project with Austal, the innovative and successful shipbuilder based in Western Australia.

The Government also plans to spend \$100 million on industrial infrastructure in Western Australia over the next few years. Much of this investment will be at the Henderson Maritime Precinct for wharves and jetties. Some improvements will also be made at HMAS Stirling, Fleet Base West. The present floating dock at the Henderson common-user facility has a capacity of 12,000 tonnes. The possibility of building a larger dock, capable of lifting 28,000 tonnes is being considered, which would enable all RAN ships to be docked in Western Australia.

Once these new projects get underway, the workforce in Adelaide will need to be greatly expanded. As the air-warfare destroyer project nears completion, employment levels at Osborne are expected to fall to a low point in 2021. As the frigate and submarine projects get underway, professional and trade personnel numbers will have to increase by some 3,600 to about 5,200 in 2026. This is a very steep increase in only five years, and will be a major challenge for the success of the plan.

Recognising that this is a critical element for the success of the plan, the Government is establishing a Naval Shipbuilding College in Adelaide to train people with a wide range of skills, with activities starting before the ship and submarine builders will be in a position to employ more trainees and apprentices. By 2022–23, it is planned that the Naval Shipbuilding College, which is to be privately run, will relocate to a purpose-built facility at Osborne. The Government also plans to involve educational institutions and defence industry throughout Australia to help provide the skilled workforce which will be required in South Australia.

## UP SKILLING

Altogether, the Naval Shipbuilding Plan suggests that some 15,000 people will ultimately be required throughout Australia in construction, sustainment and supporting industries.

The Naval Shipbuilding Plan anticipates the transfer to Australia of skills from the international ship designers who will be involved in these programs. The Government has also expressed interest in developing export opportunities for the industry participants. Certainly, the best way to sustain some specialised industry capabilities in Australia is by international collaborative programs to which Australia can add value. It would seem unlikely, within the foreseeable future, that Australia will start exporting warships. There will be sufficient challenge meeting our own requirements without attempting to enter the highly-competitive world market where some potential customers might well be off-limits in any case. The most successful approach might well be to enter into collaborative programs with partner nations so that we can retain high-level skills won during our own projects.

There has recently been a surge in interest in training people at a high level in Universities and other training institutions with the naval construction program in mind. For some, however, the employment opportunities may be limited, because for many years we will be building ships based on someone else's design. We may lose some highly trained people simply because, despite the size of the programs, suitable work is simply not available. That is not necessarily a bad thing; an active and relevant research sector is a vital component of an innovative and productive industry.

The Plan stretches over many decades. For it to succeed in eliminating the stop-start nature of the industry in the past two decades, plans and approvals for future projects will need to be made in a timely manner. Delivery of the last of the future frigates is planned around 2039. The successor project is expected to be the replacement of the Hobart-class air-warfare destroyers. Assuming that intervening



Minister for Defence Industry Hon Christopher Pyne MP and Karen Andrews MP at the Regency TAFE campus in Adelaide for announcement of the Naval Shipbuilding College March 2017.

Federal governments all run full term, there will have been nine Federal elections before that project begins. Even assuming that we still need large surface combatants then, much may have changed by the time decisions need to be made in the mid-2030s.

In 1946 expenditure was approved to improve the facilities of the two naval shipyards for the construction of modern destroyers. The improvements then made were adequate at the time, but little was done to modernise the shipyards in later years. Shipbuilding improvements were modest and usually constrained by financial considerations to the minimum required for a particular project. Plans for much more extensive modernisation of their facilities were prepared in the 1960s in the context of the light destroyer (DDL) and fast combat support ships (AOE) but only fully implemented in Williamstown.

The 21st century shipyard developments at Osborne for the frigate and submarine construction projects will be much more extensive. Plans released by the Government in late August show that a modern, well laid out shipyard will be built for the frigates with assembly of the ships largely under cover. Further development may be desirable in future — for example, we should expect that the use of automation in production processes will increase as the years pass. The site at Osborne has some distinct advantages — there is plenty of space and the site is level and not constrained by nearby development. Access by road, rail and sea is good. The same can be said of Henderson in Western Australia where most of the offshore patrol vessels will be constructed.

The types of contract arrangements which will be entered into for the submarines and frigates have not been made public. They need to provide incentives for productivity improvement, flexibility for change and equitable sharing of risk. The latter is important. In a large complex endeavour problems are bound to arise and if both parties to a contract are focussing on loss control it is easy to forget that the aim of the whole business is to build ships. Both the submarine and frigate projects stretch over many years and the relationship between the Commonwealth as the customer and the contractor as the supplier will effectively be a partnership, a

monopsony buying from a monopoly. There will be stresses and strains in that relationship. Failure will not be an option — the relationship must be made to work. Managing the difficulties which may arise can be helped by informed and experienced external advice and review, much like that provided by the Defence Industry Committee in the 1960s but more focussed.

## PERSISTENCE AND POT HOLES

For all three projects, the Government has selected, or is selecting, an overseas design partner. It is intended that there will be Australian participation in the development of the selected designs for Australian requirements and that, through this process, Australian design capability will grow. The Commonwealth also needs to be an informed and capable customer, able to respond in a timely manner during the design process when delays have the potential to hold up production and increase cost.

It will be a considerable challenge for Defence's resources where relevant experience may be thinly spread.

By far the greatest challenge to the planned program will be acquiring the workforce in South Australia for the frigate and submarine projects. The demands for the construction of the offshore patrol vessels in Western Australia may be more easily met. As mentioned, the professional and production workforce in South Australia is expected to increase by some 3,600 in a five year period. That is a very steep increase, noting that it will be needed in two separate but adjoining facilities. Education providers, like those universities and vocational education providers who comprise the Defence Industry Education and Skills Consortium, are rising to the challenge. Skill training is only the beginning. An essential component for success is experience. That will come in time but until then those people in Australia who are experienced in naval construction may be thinly spread and overseas recruitment of additional people, particularly in technical, supervisory and management roles, may well be necessary.

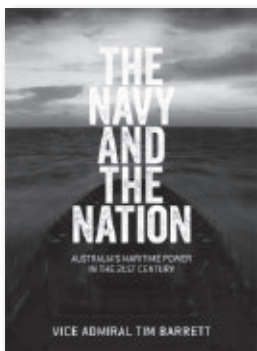
One factor in favour of success is the very size of the program — the construction of 33 ships and submarines. The potential for reaping the benefits of learning are considerable even if progressive numbers of the ships incorporate modifications as payload changes during the program period. Even with a small program, like the air-warfare destroyers, the benefits of learning can become evident. The Chief Executive of ASC Shipbuilding, Mark Lamarre, recently said that the construction costs of the second AWD were 40 percent less than for the first, and that the costs for the third ship were running 39 per cent lower than the second ship [11]. That is a remarkably steep learning curve, probably reflecting the high costs attributed to the start-up of surface-warship building in Adelaide and other difficulties with the project in its early years. The cost benefits from the construction of a series of nine frigates, twelve submarines or twelve offshore patrol boats are considerable, particularly if coupled with on-going continuity.

Whilst the road to success with the Naval Shipbuilding Plan may have some pot-holes along the way, it will be worth persisting to gain the benefits it offers to the nation, the navy and industry. ■

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## The Navy and the Nation

**Australia's Maritime Power in the 21st Century**

Vice Admiral Tim Barrett AO CSC RAN

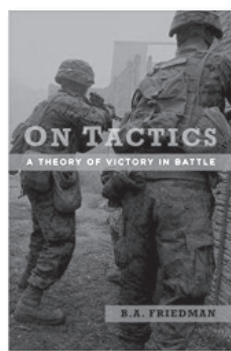
MUP (Jan 2017)

Paperback ISBN: 9780522871586

**Paperback: \$19.99 eBook: \$11.99**

Admiral Barrett's book is favourably reviewed by Professor Geoffrey Till of Kings College London, who has traditionally worked closely with the British Royal Navy. The apparent need to find lead reviewers from abroad and not Australia or both is perhaps telling. If our institutions are not good enough – and there is growing evidence to suggest this may be the case – then what does it also tell us about ourselves and what needs doing? Readers might also recall that in Flash Traffic *The NAVY Magazine* Vol. 79, No. 2, Apr-Jun 2017, it was rather cheekily suggested that a copy of *The Navy and The Nation* might be provided for review. This was graciously done and a copy sent through by a member in Chief of Navy's Office, thank you. The NLA is looking forward to reciprocating with a presentation to CN of *Keeping Watch: A History of The NLA, 1895-2015*.

The unique courage behind this book has been to find a way of communicating a quiet voice of reason beyond simply what the Public Service, policy-wonk tankers and Canberra circles think and (often) allow to be said. Admiral Barrett has led Navy; providing a distinct leadership focus on the change necessary to conceive, develop and hold RAN in a class fit for the 21st Century. He clearly articulates the system and the need to develop, lead and realise change. While neither Plan Pelorus, which 'sets out the Navy's prospects'; or *The Navy and The Nation*, really tells us how it is to be done, the book does get at the thinking and planning needed – echoing Eisenhower's maxim that 'in preparing for battle... plans are useless, but planning is indispensable'. What is unique is that (for perhaps the first time) a Chief of Service has set down his thinking while in office. This is courageous in and of itself; showing a conviction and lead not always evident in peace time. It also suggests an impressive level of systemic intellect and enquiry. Noting, hopefully this will not be compulsory reading for pupils, as per books written by certain head teachers – Tim Barrett makes a valid contribution; providing a well worth reading; systems-normative view of Navy as a culturally agile, flexible rule-based organisation. Perhaps there is another book lurking in the wings that will provide a values-based narrative on Navy in-being, past, present and future – showing how thinking and planning may become reality?



## On Tactics:

**A Theory of Victory in Battle**

Captain Brett A. Friedman USMCR

Naval Institute Press (May 15, 2017)

Hardcover ISBN-10: 1682471632

Paperback ISBN-13: 9781682471630

Hardcover \$US29.95; \$AS40.00

**eBook \$18.17; \$AS24.50**

It is entirely commendable how often the U.S. Armed Forces (USAF) generate such thinking within their people and – through organs such as the USNI – enable them to speak. Captain Friedman, like so many of his compatriots, has seen service and has survived and learned to nail his colours to the mast. Such marine-scholars – like the soldier-scholar H.R. McMaster – tend increasingly to leave the Allies in the shade. It is telling also, that there is depth to the US military-scholarly mettle, in that General Anthony C. Zinni USMC (Ret.) also favourably reviews the book.

The bases of the book is both a challenge and a critique of existing tactical theory and, through the theory, examining its linkage to strategy and victory. The book begins with an examination of Fuller, Foch and Clausewitz on the Principles of War – from which an attempt is made to list the principles. In other words to provide a check-list for budding tacticians. As Friedman correctly observes, such lists rarely work exactly because there is a 'lack of discussion [in doctrine] as to how the principles work'. In an Australian sense, they lack the wisdom of the senior sailor asking the basic questions, and testing the assumptions. In an academic sense, such lists fundamentally discourage critical thinking. Another perspective is that, as a rule of thumb, one cannot prioritise more than five items. If one is dealing with more than five principles, then one is dealing with a complex system. Friedman recognises this and the linkage between complexity and simplicity but it is unclear if he entirely considers strategy as an emergent property, and the connection between tactics and strategy. Perhaps this could be the bases of his next book, or PhD? I worry about the statement that a 'tactical system' is nothing without 'smart tacticians' and that the USAF has thus far relied on luck to generate both – what hope the rest of us! Serendipity is part of complexity and more than luck – akin to Napoleons view 'that the wise man neglects nothing which contributes to his destiny'.

There are the usual suspects in terms of references and examples which work well. However, it is somewhat surprising that Blitzkrieg is mentioned in the absence of General John Monash and the All Arms success enjoyed by the U.S. Army, the USMC and the AIF at the end of World War I. Monash understood tactics and their connections to strategy and victory. He is perhaps worthy of future study by Brett in his next book? Nevertheless, a great read, thank you.

# STATEMENT OF POLICY

For the maintenance of the Maritime wellbeing of the nation.

CURRENT AS AT 1 OCTOBER 2017

The Navy League is intent upon keeping before the Australian people the fact that we are a maritime nation and that a strong Navy and capable maritime industry are elements of our national wellbeing and vital to the freedom of Australia. The League seeks to promote Defence self-reliance by actively supporting defence manufacturing, and the shipping and transport industries.

The strategic background to Australia's security is changing and in many respects has become much less certain following increasing tensions in East Asia, Europe and the Middle East. The League believes that Australia should rapidly increase the capability to defend itself, paying particular attention to maritime defence. Through geographical necessity Australia's prosperity, strength, and safety depend to a great extent upon the security of the surrounding seas and island areas, and on unrestricted seaborne trade.

## The Navy League:

- Believes Australia can be defended against attack by other than a major maritime power and that the prime requirement of our defence is an evident ability to control the sea and air space around us and to contribute to defending essential lines of sea and air communication with our allies.
- Supports a continuing strong alliance with the US.
- Supports close relationships with all nations in our general area particularly New Zealand, PNG and the South Pacific island States.
- Advocates the acquisition of the most capable modern armaments, surveillance systems and sensors to ensure technological advantage over forces in our general area.
- Advocates a strong deterrent element in the ADF enabling powerful retaliation at significant distances from our shores.
- Believes the ADF must be capable of protecting commercial shipping both within Australian waters and beyond, in conjunction with allies.
- Endorses the development of the capability for the patrol and surveillance of all of Australia's ocean areas, its island territories and the Southern Ocean.
- Advocates Government initiatives for rebuilding an Australian commercial fleet capable of supporting the ADF and the carriage of essential cargoes to and from Australia in times of conflict.
- Welcomes the 2016 Defence White Paper and the Government intention to increase maritime preparedness and gradually increase defence expenditure to 2% of GDP.
- Urges the strength and capabilities of the Army (including particularly the Army Reserve) and Air Force be enhanced, and the weaponry, intelligence, surveillance, reconnaissance, cyberspace and electronic capabilities of the ADF be increased, including an expansion in its UAV capability.
- replacement frigates and Offshore Patrol Vessels, noting the escort requirements of our 5 new major warships and the many other essential maritime tasks.
- Recommends bringing forward the start date of the replacement frigate program.
- Recommends the timely replacement and increase in numbers of the current mine-countermeasure force.
- Strongly supports the early acquisition of large, long range and endurance, fast submarines and notes the deterrent value, reliability and huge operational advantages of nuclear powered submarines and their value in training anti-submarine forces.
- The League is concerned at the very long time before the projected 12 new conventional submarines can enter operational service, noting the increasing tensions and major changes now taking place in international relationships.
- Recommends very early action to provide a submarine base on the Eastern seaboard.
- Notes the potential combat effectiveness and flexibility of the STOVL version of the Joint Strike Fighter (F35 Lightning II) and supports further examination of its application within the ADF.
- Supports the development of Australia's defence industry, including strong research and design organisations capable of the construction and maintenance of all warships, submarines and support vessels in the Navy's order of battle, and welcomes the Government decision to provide a stable and continuous shipbuilding program.
- Supports the efforts by Navy to rebuild the engineering capability to ensure effective Fleet maintenance and sustainability.
- Advocates the retention in maintained reserve of operationally capable ships that are required to be paid off for resource or other economic reasons.
- Supports a strong Naval Reserve and Australian Navy Cadets organisation.
- Advocates a strong focus on conditions of service as an effective means of combating recruitment and retention difficulties.

**As to the RAN, the League,** while noting vital national peacetime tasks conducted by Navy, including border protection, flag showing/diplomacy, disaster relief, maritime rescue, hydrography and aid to the civil power:

- Supports the concept of a Navy capable of effective action in war off both the east and west coasts simultaneously and advocates a gradual build-up of the fleet and its afloat support elements to ensure that, in conjunction with the RAAF, this can be sustained against any force which could be deployed in our general area.
- Considers that the level of both the offensive and defensive capabilities of the RAN should be strengthened, in particular with a further increase in the number of new proposed

## The League:

- Calls for a bipartisan political approach to national defence with a commitment to a steady long-term build-up in Australia's defence capability including the required industrial infrastructure.
- While recognising budgetary constraints believes that, given leadership by successive governments, Australia can defend itself in the longer term, within acceptable financial, economic and manpower parameters.



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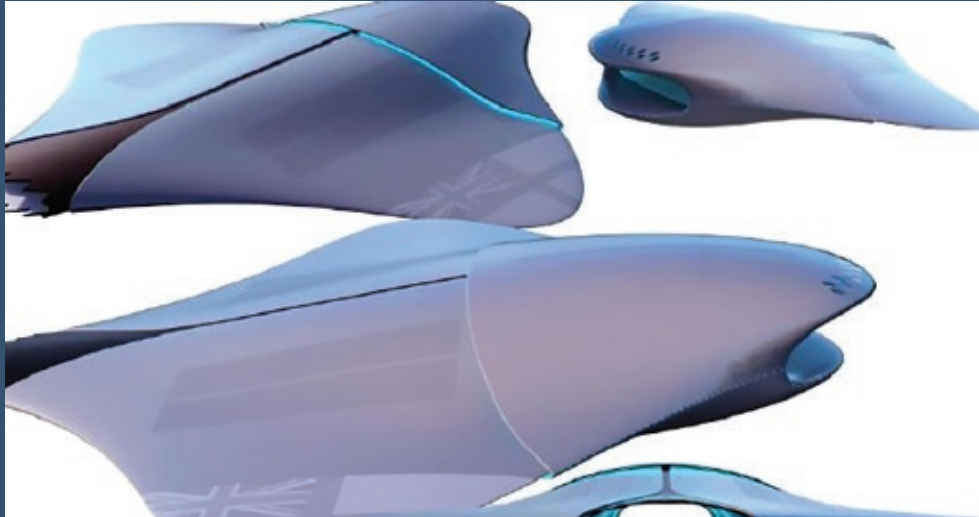
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**HATCH:** Artist Impression of Future Royal Navy Submarines - Image UK MoD.



**MATCH:** HMS QUEEN ELIZABETH (R08) Arriving in Portsmouth Aug 2017 Getty Images.



**DIS-DISPATCH:** Chief of Naval Operations Admiral John Richardson USN before recent incidents is looking at bringing back ships such as USS FORD (FFG 54) to grow the Navy more quickly.