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Military Analysis: The Royal Australian Navy

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SouthFront: Analysis & Intelligence is offering an analysis of the assets and capabilities of the The Royal Australian Navy. Australia is a key ally in the Obama administration's "Pivot to Asia" which is a term for the strategy aimed to seal off the PLA Navy in South China Sea and prevent its moving in operations space and encircle China by land. In this order, the U.S. holds old and sets up new alliances with nations in Indo-Asia-Pacific region. Thus, it's important to get a better idea of how Australian have been utilizing their naval assets.

Additional noteworthy news is the decision to give the Philippines two older U.S. naval vessels in an attempt to bolster their defense against China in the South China sea and to aid them in their own claims to disputed territories there. It is important to note that a U.S. shipyard is already supplying 4 small, fast patrol boats to the Philippine Coast Guard, and the Australian Navy is donating 2 landing craft to the Philippine Navy this coming year.

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Introduction

The Royal Australian Navy has its roots in the Royal Navy of Great Britain, and has grown out of that shared tradition greatly from lessons learned in both World War I and World War II, to become a potent and streamlined regional naval fighting force. World War I harkened the birth of a true modern navy for Australia, while World War II saw its growth from one of the smallest Navies in the British Commonwealth to the 5th largest in the world by the end of the war in 1945.

Brief Overview

The Royal Australian Navy (RAN) maintained a sizable fleet of combatant and support vessels throughout the Cold War, supporting UN operations in the Korean War and early in the Vietnam peace keeping operations that gradually became the U.S. prosecuted Vietnam War. Throughout this period, the RAN operated a number of small aircraft carriers in addition to other surface vessels; however, Australia greatly scaled back their power projection capabilities when the force went through a major structural transition in the late 1970s and 1980s.

In its current form, the RAN operates as the naval/maritime arm of the Australian Defense

Force (ADF). Emphasis has been placed on border protection, humanitarian relief capability, and control of the territorial waters and EEZ of the nation through both waterborne and aerial patrol and surveillance. Australia has operated a much more streamlined naval force in the past three decades; however, this has not stopped them from participating in many joint operations with the U.S. Navy and other international coalitions. Australia committed naval assets to Operation Iraqi Freedom, and continues supporting the NATO operations in Afghanistan under Operation Highroad. The government of Australia has justified participation of the ADF in these operations far from Australia's shores under the auspices of the mutual defense clauses of the ANZUS Treaty and United Nations Security Council Resolution 1386 which established the NATO led International Security Assistance Force (ISAF).

Current Organization and Deployment

The RAN has two commands under the Chief of the Navy, Navy Strategic Command and Fleet Command. Navy Strategic command has authority over all strategic planning, personnel management, resources, engineering, certification and safety. Fleet Command has command of all fleet components. These are broken down into the following sub-commands:

Surface Force

Mine Warfare, Hydrographic and Patrol Force

Submarine Force

Fleet Air Arm

Shore Force

The RAN operates out of two main naval bases, Fleet Base East (HMAS Kuttabul located in Sydney) and Fleet Base West (HMAS Stirling located in Perth). Since 1987 the RAN has operated a "Two Ocean" naval plan which allows the RAN to cover both the Pacific and Indian Oceans on a continuous and committed basis. There are a number of other bases and support facilities.

RAN Facilities

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Fleet Base East/HMAS Kuttabul: Main Fleet Base located in Perth.

Fleet Base West/HMAS Stirling: Main Fleet Base located in Sydney.

HMAS Albatross: The RAN's only Naval Air Station that operates three squadrons of aircraft.

723 Squadron with AS350 Squirrel helicopters

816 Squadron with S-70B Seahawk helicopters

NUSQN 808 with MRH-90 helicopters

*It must be noted here that the RAAF operates maritime patrol aircraft within the ADF structure. This includes a number of AP-3C Orion aircraft and six E-7A Wedgetail EWC aircraft. The AP-3C Orions will be replaced by the new PA-8 Poseidon maritime patrol and surveillance aircraft and a number of MQ-4C Triton (Global Hawk) UAVs starting by 2017.

HMAS Cairns: Located in Cairns on the SE Coast of Australia. This base is homeport for 14 RAN vessels.

Armidale Class Patrol Boats

- HMAS Bundaberg 91
- HMAS Wollongong 92
- HMAS Childers 93
- HMAS Launceston 94

Balikpapan Class Landing Craft Heavy (LCH)

- HMAS Brunei L127
- HMAS Labuan L128
- HMAS Tarakan L129
- HMAS Wewak L130

Leeuwin Class Hydrographic Survey Ships (HS)

- HMAS Leeuwin A245
- HMAS Melville A246

Paluma Class Survey Motor Launches (SML)

- HMAS Paluma A01
- HMAS Mermaid A02
- HMAS Shepparton A03
- HMAS Benalla A04

HMAS Cerberus: Base dedicated to naval personnel training located just south of Melbourne, at Crib Point on Western Port Bay.

HMAS Coonawarra: Located in Darwin in Northern Australia. It is the center of “Border Integrity Operations and also operates patrol craft repair facilities.

HMAS Creswell: Located in Jervis Bay south of Sydney on the East Coast of Australia. A major training facility. Home of the RAN College and training facilities that focus on ship safety and survivability, damage control, nuclear, biological and chemical defense, and naval gunnery and anti-aircraft gunnery ranges.

HMAS Harman: Located in Canberra, the base services various administrative and communications functions for the RAN.

HMAS Penguin: Located in Sydney, the base is home to the RAN Diving School, Hydrographic

School and Medical School.

HMAS Waterhen: Home of the RAN Mine Countermeasures Force and homeport to 6 RAN vessels.

Huon Class Mine Hunter Coastal Vessels:

- HMAS Diamantina M86
- HMAS Huon M85
- HMAS Hawkesbury M83
- HMAS Norman M82
- HMAS Gascoyne M84
- HMAS Yarra M87

Dive Tender (DTV):

- HMAS Seal DVT1001

Torpedo Recovery Vessel (TRV):

- HMAS Trevally TRV802

Mine Sweeper Auxiliaries (MSA):

- HMAS Bandicoot Y298
- HMAS Wallaro Y299

HMAS Watson: Located at Sydney's South Head, the base is host to the RAN's premiere naval warfare school.

NHQ South Australia: Naval Headquarters located in Adelaide in Southern Australia.

NHQ Queensland: Naval Headquarters located in Brisbane, South Queensland in Eastern Australia.

NHQ Tasmania: Naval Headquarters support office located on the Island of Tasmania.

Fleet Vessels

The RAN has a combined fleet of 43 surface warfare vessels and a host of support and ancillary vessels. It's most potent vessels are the 8 Helicopter Frigates (FFH), 3 Guided Missile Frigates (FFG) and the recently commissioned HMAS Canberra Landing Helicopter Dock (LHD), or Amphibious Assault Ship. An additional Canberra Class LHD and 3 Hobart Class Air Warfare Destroyers (AWD) are in the process of being built.

LHDs or Aircraft Carriers?

The HMAS Canberra is the first of two planned LHDs in this class and is the first of 5 vessels being built as part of the RAN "Next Generation Navy" five year program to modernize and

streamline the surface combatant force, and the service as a whole. The two LHDs are being built in Spain by the Navantia shipbuilding company, and finishing of the vessels advanced communications and combat systems is being conducted in Australia by the BAE Systems shipyard at Williamstown in Melbourne.

The Navantia LHD design was chosen as the template for the Canberra, and is approximately 4,000 tons larger in displacement than the already built Juan Carlos I that was supplied to the Spanish Navy. It is interesting to note that the skip ramp of the original design was retained, allowing the vessel to launch fixed wing VSTOL aircraft. The Spanish vessel has a complement of Harrier aircraft, but no such VSTOL fixed wing aircraft exist in the RAN or Royal Australian Airforce (RAA). It has been surmised that with the RAA taking delivery of 72 F-35A aircraft in the near future to replace all of its current inventory of F/A-18 A/B Hornet and F/A-18F Super Hornet aircraft, (if the F-35 ever reaches production status in light of all of its glairing short-comings) that the decision could be made later on to purchase a small number of F-35B VSTOL aircraft for the new LHDs. This is a controversial issue both in military and political terms.

Making provision for a wing of VSTOL aircraft on board the LHDs would take valuable space away from the helicopter and amphibious assault elements, and would thus detract from the vessel's role as a platform to deliver and support amphibious forces by helicopter or small landing craft. Its current design allows for the accommodation of approximately 110 light vehicles, on two light vehicle decks and one heavy vehicle deck. A number of Abrams MBTs can be accommodated in the heavy vehicle deck. There is enough space, and deck strength to stow 196 TEUs of containerized cargo on the heavy vehicle deck if so desired. A marine landing force of 1,600 men is to be accommodated, with helicopter capacity to deploy 220 men at a time and landing craft capacity of 4 Light Landing Craft (LLC). Such a configuration allows for the deployment of a full Battalion of marines, or a mixed force of marines and a sizeable load of relief supplies for disaster relief operations.

A decision to equip the LHDs with a wing of fixed wing VSTOL aircraft would greatly detract from their traditional role. There is not enough space to accommodate many fixed wing aircraft, as the Juan Carlos I currently can only carry 10 to 12 Harriers if one of the light vehicle decks is set aside for these aircraft. It is arguable that the striking power of 10 to 12 F-35Bs is not significant enough in a major conventional naval conflict with an adversary of significant capability such as China or India; however, it is doubtful that the RAN would ever conduct major operations on its own without the full support of the U.S. Navy.

The greatest asset of these new vessels is their flexibility. Any potential adversary must make contingencies dependent upon a variety of uses for these vessels. Theoretically, the Canberra Class LHD is flexible enough to be a good asymmetric warfare platform, being able to support Special Forces troops delivered via helicopter or small watercraft, VSTOL aircraft, modern naval drones such as the Northrop Grumman X-47B, or a combination of all of the above.

Canberra Class LHD Particulars:

- Length Overall 230.82m
- Molded Beam 32.00m
- Beam Waterline 29.50m
- Flight Deck height 27.50m
- Draft at Full Load Displacement 7.08m

- Full Load Displacement 27,500 tons

Defensive Weapons Systems:

- Anti-Torpedo Towed Defense System (Nixie)
- Four 20 mm automated guns
- 6 x 12.7 mm machine guns
- Active missile decoy system – Nulka

Aircraft Accommodation:

- 6 Blackhawks, or 4 CH-47 Chinooks on the Flight Deck
- Hangar can accommodate 8 medium helicopters
- Light Vehicle Deck can be configured to accommodate 18 medium helicopters
- 10 to 12 F-35B VSTOL aircraft in theory, if so configured

Hobart Class Air Warfare Destroyers

The new Hobart Class Air Warfare Destroyers (AWD) are similar in design and function to the U.S. Navy's Arleigh Burke Class destroyers. They are equipped with the Aegis combat system, which couples the AN/SPY 1D(V) phased array radar with the SM2 missile giving it an effective engagement range of 150 kilometers. Although three vessels are planned in the initial new building program, the number may be expanded to a total of 11 vessels in this class.

The Hobart Class AWD vessels will provide the RAN with a good counter to the ever increasing missile capabilities being fielded by the PLA Navy and the large number of attack aircraft fielded by the PLA Navy and Airforce. They also provide air warfare defense against long range land based missiles employed by the PLA Second Artillery Force. These vessels could be a great asset to a U.S. Aircraft Carrier Battle Group in providing added Air Warfare capability.

Hobart Class AWD Particulars:

Vessels in Class

- HMAS Hobart (III)
- HMAS Brisbane (III)
- HMAS Sydney (V)

Characteristics

- Length 146.7 meters
- Beam: 18.6 meters
- Draft: 7.2 meters
- Full Load Displacement: 7,000 tons

Performance

- Top Speed: 28+ knots
- Range: 5,000+ nautical miles at 18+ knots

Crew

- Approx. 180

Accommodation

- 234

Combat System

- Aegis Weapon System Baseline 7.1
- AN/SPY-1D(V) Phased Array Radar
- Horizon Search Radar
- Mk 41 Vertical Launch System (48 VLS Cells)
- Mk 45 5” 62 Caliber Gun
- Advanced HARPOON Weapon Control System: 2 quad launchers
- EW Suite
- Very Short Range Air and Surface Defense
- NULKA Active Missile Decoy system
- Integrated Sonar System incorporating a Hull Mounted and towed array sonar
- Communications Suite

Aviation

- Hangars: 1

Frigate Helicopter (FFH)

The RAN currently has 8 Anzac Class vessels in service. These vessels are long range escort vessels based on the German Meko 200 Frigate design. They can carry out a range of duties including air defense, anti-submarine, reconnaissance and interdiction. They have a top speed of 27 knots and a range of 6,000 nautical miles. They are very capable vessels and are equipped with the Mk 41 vertical launch system for the Sea Sparrow point defense missile, Harpoon Block II anti-ship missile, a 127mm deck gun and ship launched torpedoes.

Anzac Vessels in Service:

- HMAS Anzac FFH 150
- HMAS Arunta FFH151
- HMAS Ballarat FFH 155
- HMAS Parramatta FFH 154
- HMAS Perth FFH 157
- HMAS Stuart FFH 153
- HMAS Toowoomba FFH 156
- HMAS Warramunga FFH 152

Guided Missile Destroyers (FFG)

The RAN operates 3 Adelaide Class FFGs (based on the U.S.Oliver Hazard Perry Class FFG) of an original compliment of 6 vessels in this class. The first four vessels were built in the United States and refitted in Australia, with the final two vessels being completely built in Australia. Although these vessels were built between the years 1984 and 1993, they are still quite capable vessels in modern surface warfare terms. The vessels utilize gas turbine propulsion and are highly maneuverable, with a top speed of 29 knots and a range of 4,500 nautical miles. The FFGs primary weapon systems are the SM2 anti-aircraft missile and Harpoon anti-ship missile. A 76mm deck gun is also fitted, along with one 20mm phalanx close range anti-aircraft defense weapon. Anti-submarine capabilities are provided by two Mk32 triple torpedo tubes for close range defense and an aft hangar houses two S-70 B2 Seahawk helicopters for long range anti-submarine operations.

Adelaide Class Vessels in Service:

- HMAS Darwin FFG04
- HMAS Melbourne FFG05
- HMAS Newcastle FFG06

Guided Missile Submarine (SSG) Diesel Electric

The RAN operates 6 Collins Class diesel electric submarines. These vessels are of Swedish design, with all six vessels being commissioned between the years 1996 and 2003. They are equipped with 6 torpedo tubes for firing Mk 48 Mod 7 torpedoes, UGM-84C Sub-Harpoon anti-ship missiles, or Stonefish Mk 3 mines. All six vessels are based at HMAS Fleet Base West.

It has been reported that the RAN has struggled to train and maintain capable crews for all six of their SSGs. Operating a modern submarine service is quite possibly one of the most challenging achievements amongst the more capable navies of the world. A high level of training and competency is required and developing a strong tradition of submarine warfare in any navy takes many years to develop. Some ambitious planners in the RAN and members of the Australian government have been advocating a two ocean fleet of 12 advanced SSGs, but it is unclear where the funds and resources will come for this program.

Collins Class SSGS in Service:

- HMAS Collins SSG 73
- HMAS Farncomb SSG 74
- HMAS Waller SSG 75
- HMAS Dechaineux SSG 76
- HMAS Sheean SSG77
- HMAS Rankin SSG78

Patrol Boats (PB)

The RAN operates 13 Armidale Class Patrol Boats (PB). These vessels are tasked with a variety of roles, but most often are utilized in the border patrol and maritime intercept and interdiction roles. The Armidale Class PBs are armed with a 25mm M282 automatic cannon and 2 x 12.7mm machine guns. They have a top speed of 25 knots and a range of 3,000 nautical miles. All PBs are based at either HMAS Cairns or HMAS Coonawarra.

Armidale Class PBs in Service:

- HMAS Albany PB86
- HMAS Ararat PB89
- HMAS Armidale PB83
- HMAS Bathurste PB85
- HMAS Broome PB90
- HMAS Childers PB93
- HMAS Glenelg PB96
- HMAS Larrakia PB84
- HMAS Launceston PB94
- HMAS Maitland PB88
- HMAS Maryborough PB95
- HMAS Pirie PB87
- HMAS Wollongong PB92

Conclusions

The Royal Australian Navy is an extremely capable force in its current form, with over 16,000 well trained and dedicated personnel and a modern fleet of over 50 commissioned vessels. The fleet decommissioned the last of its aircraft carriers, HMAS Melbourne in 1982 and the focus was put on developing a streamlined navy that could both defend the island continent and respond quickly to incursions and natural disasters in its outlying territories.

The Australian government moved to militarily aid the United States in its forays into Afghanistan and Iraq in the early 21st century, sighting the ANZUS Treaty and UN Resolution 1386 as the justification. The RAN continues to support the NATO mission in Afghanistan and anti-piracy and anti-terrorism efforts off the horn of Africa in Operation Manitou, Australia's contribution to the US-led Combined Maritime Forces (CMF).

The RAN is currently undergoing a rapid modernization program that is altering the capabilities and posture of the RAN from a navy of defense and border control to a navy of limited power projection capability. The addition of two brand new LHDs that have the capacity to transport and support small expeditionary forces as well as theoretically carry a small contingent of fixed wing VSTOL aircraft, and three state of the art AWDs equipped with the Aegis combat system, greatly increases the power projection capabilities of the RAN.

This new capability is most assuredly making China's military planners take notice. At a time where China is asserting its sovereignty over disputed islands in the South China Sea, most notably the Spratly Islands and the Paracel Islands, this acquisition of power projection capability by Australia may add fuel to an already heated situation. PLA Navy strategic planners do not like the thought of two modern Canberra Class LHDs being able to transport a total of 3,200 marines, their complement of heavy weapons and Abrams tanks, while

covered from air threats by three equally capable Hobart Class AWDs anywhere in the South China Sea. It must be acknowledged that the RAN will almost always be supported by the U.S. Navy in any confrontation. The RAN will not go to battle alone.

It is additionally important to note that the Japanese Defense Force Navy has already added one of two planned vessels of the designation “Helicopter Destroyer” (DDH) to its fleet. The JS Izumo DDH-183, and the soon to be launched JS Kaga DDH-184 bear a new classification, but most military analysts agree that they have the inherent capability to be used as small aircraft carriers. Japan also has territorial disputes with China over the Senkaku/Diaoyu Islands. China is faced with another neighbor acquiring a limited power projection capability where one had previously not existed (since the end of World War II).

At a time when the United States continues to up the ante in the ongoing dispute over sovereignty of islands in the South China Sea and the issue of freedom of navigation in international waters, a more potent RAN is not a comforting thought. Australia has made a huge financial commitment to building a more powerful and farther reaching navy in recent years, and will continue to add new, more powerful vessels to the fleet. It remains to be seen how China and other neighbors in the region will respond.

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