

DIVIDING THE SPOILS

Revised national security approach more clearly defines Defence & Customs roles

After spending the year evaluating new vessel designs to replace existing Customs 'Bay'-class patrol vessels, the Government is approaching a critical decision to re-equip Australian Customs & Border Protection Service (ACBPS) maritime assets to more ably execute a burgeoning charter of responsibilities driven by the widening scope of 'national security threats' first outlined by Prime Minister Rudd at the close of 2008.

■ Nick Merrett/CANBERRA

With its substantive emphasis on boosting the Royal Australian Navy's maritime capabilities by foreshadowing the construction of several new types of surface vessel, the 2009 Defence White Paper (DWP'09) set a new (minimum) benchmark for future naval vessels – of around 2,000 tonnes – when it canvassed the construction of a new generation of multi-role vessels under project Sea 1180.

The new design vessel with modularised systems – and potentially hosting both a manned helicopter and unmanned aerial vehicles – is intended from 2019 to pick up activities currently undertaken by the 305-tonne 'Armidale'-class patrol boats, the 2,550-tonne 'Leeuwin'-class hydrographic ships, the 720-tonne 'Huon'-class coastal minehunters, and 310-tonne 'Paluma'-class survey ships.

Now unlikely (in light of DWP'09's re-setting of the Navy's ship hierarchy) to be blessed with a headline patrol vessel of the size of the US Coast Guard's new 4,305-tonne (full load displacement) 'National Security Cutter', the Australian Customs & Border Protection Service is nevertheless planning to step-up in the next few years to a new class of ship closer to the size of the Navy's existing 'Armidale'-class patrol boats, as a replacement for its current 'Bay'-class vessels.

On a daily basis, the ACBPS' Border Protection Command (BPC) draws on a range of ves-

sels and supporting assets to execute its maritime patrol and border protection responsibilities. In short, this includes: from Defence – up to three RAAF AP-3C 'Orion' maritime patrol aircraft, seven 'Armidale'-class patrol boats, one RAN major fleet unit available at seven days notice (supported by a business rules-governed surge capability).

From within Customs, there are – eight 'Bay'-class patrol vessels (operating throughout Australia's maritime zones), three contracted vessels (operating in the Southern Ocean and/or Australia's northern waters), some 31 small vessels operating inshore (with an additional number of small vessels crewed by Enforcement and Investigations officers), ten contracted fixed wing aircraft and three helicopters, satellite surveillance data to supplement aircraft surveillance, and tasking access to the Australian Mari-

time Safety Authority's 'Dornier' search & rescue aircraft.

Running through the 2007 election campaign (as supported by key policy documents), the Labor Party indicated that upon coming to Government it would review the range of assets provided to the BPS, including whether current practices of leasing major response vessels would be continued, as against the alternative of the Government building and manning its own vessels.

The roles and orientation of local national security services (aside from Defence) were extensively reviewed by former Department of Defence Secretary, Ric Smith, in his 'Homeland & Border Protection Security' review, which has since been fed into the development of a new Strategic Border Management plan, expected to be launched in early-2010.

A project to replace the ACBPS' (Customs) eight 'Bay'-class vessels (BCRVs) was commenced in mid-2009 upon the release of a Request for Proposals (RFP) for the provision of services and materials for the acquisition and in-service support of replacement vessels. The 'Bay'-class vessels were introduced into

service between 1999 and 2000, with a useful life expectancy of 10 years at a usage rate of 180 days/year/vessel. As a consequence of increased tactical and strategic demands (and significantly escalated usage rates – to 300 days/year/vessel), the patrol vessels are now suffering a number of operational constraints running up to replacement.

Customs was said in the RFP to be looking to acquire and sustain through-life "an effective capability that satisfies the primary role of an armed civilian maritime constabulary force" and capable of supporting its mission under the (then) Civil Maritime Surveillance and Response Program. It was further specifically mentioned that the new vessel must also provide a maritime capability to assist the BPC in co-ordinating whole of government responses to threats to Australia's maritime borders, and the maintenance of order within Marine Jurisdictional Zones.

Coming out of RFP response evaluations, Customs is to provide to the Government for consideration in the 2010/11 budget context 'costed options' for two possible replacement BCRVs. The first seeks a vessel of similar operational capability to the current 'Bay'-class vessels, but updated to meet mandated regulatory and statutory obligations (described as the 'like-for-like' option).

The second seeks a vessel of enhanced operational capability (ie: of greater range, speed and endurance to the 'Bay'-class) and is described as the 'Enhanced Option'. Both vessel options are to draw off a proven design, and are to be constructed for a design life of 25 years. The BCRV fleet is to be available, without system deficiencies, to complete not less than 2,400 ('like-for-like' option)/2,600 (Enhanced option) patrol days per year. Each BCRV shall have an unrefuelled range of



CLEAR DEMARCATION BETWEEN DEFENCE & BORDER SECURITY:

The Defence White Paper has delineated a clear distinction between the capabilities of the Royal Australian Navy and the Customs & Border Protection Service. The latter will move up to the baseline now constituted by the Navy's 305t 'Armidale'-class, while frontline naval personnel will no longer serve in anything less than a 2,000t vessel. NATIONAL SECURITY CUTTER – USCG PHOTO

2,700/ 3,000 nautical miles – at a cruising speed of not less than 10/12 knots at the top of Sea State 4, at the most advantageous heading with 25% burnable fuel remaining in reserve. Each vessel is also required to be capable of a sustained speed of not less than 25 knots at all headings, at the top of Sea State 4.

Only one of the two possible capability solutions was to be selected to proceed to the next stage of the acquisition activity, however, respondents were not restricted from submitting solutions to both options. The evaluation of responses began last September (2009) in order to inform a down select in the second quarter of 2010.

Technical evaluation was to be based on responses to the Statement of Requirement, not the Function and Performance Specification that was provided to potential respondents as a basis for pricing. The initial term of the in-service support contract (ISSC) is likely to be six years, with expectations both the acquisition and ISSC could be entered into with a single provider.

Each BCRV communications system is to be interoperable with both ADF and other Australian Government agencies (by way of secure and non-secure voice and data transmit/receive MIL-SATCOM in the UHF 225MHz – 400MHz military band), and shall be capable of a minimum of 30% expansion of network and switching capacity. The new vessels are to also have an electronic surveillance system capable of intercepting signals (with carrier frequencies ranging from 2MHz to 18GHz) and monitoring VHF, UHF and HF signals. It is considered 'important' the BCRV's

communication subsystem also interface with the UK's 'Skynet' 4, US UFO, 'LeaSat' L5 and Optus C1 systems.

Armament will be via a stabilised lightweight mini-'Typhoon' M2HB .50 calibre machine gun matched with a 'Toplite' gyro-stabilised electro optical surveillance system. There was also a requirement (not deemed 'essential', but 'important') for each BCRV to carry a Long Range Acoustic Device (LRAD) capable of transmitting and amplifying pre-recorded voice messages and tones to an audible level at a range of 1,500m in still air.

Each BCRV shall have not less than 7 ('like-for-like')/12 (Enhanced) twin-berth crew cabins each with a separate ensuite. Each BCRV will also need to sustain autonomous operations for not less than 21/28 days with 20/26 permanently embarked personnel, with a surge capacity to 32/50 personnel onboard when an 'austere accommodation' compartment (containing 24 ablution and washing facilities, and berths for detained persons) is at 100% capacity.

Given the counter suspected illegal immigrant vessel (SIEV) and illegal fishing tasking, the BCRVs will further need to be able to tow a vessel not less than 250 tons displacement at 4-8 knots, to the top of Sea State 4. Reflective of anticipated operational environments, each BCRV is to have a lockable and secure weapon storage system for three QCB .50 calibre machine guns, six QCB .50 calibre machine guns barrels and two heavy-duty .50 calibre machine guns.

The BCRV Armoury will also stow 20 'Glock' 17A pistols with fitted tactical lights, six Reming-

ton 870 pistol grip shot guns, and six training 'Glock' 17A pistols. It will further store 20 ballistic vests, 20 combat helmets, 25 capsize spray units, at least 70 (9mm) 'Glock' magazines, 20 telescopic ASP batons, six training knives and 20 handcuffs. Each BCRV will have a dedicated hands-free, wireless weapons communication system at each machine gun mount, at the 'Mini Typhoon' mount, the weapons control console, and Bridge and Bridge Wings.

To support sea-based interceptions, each BCRV ship's boat is to be able to maintain a speed of at least 35 knots at full power with full boat outfit, full fuel load, eight persons at 100kg/person, and 200 kilograms of equipment embarked. It is described as 'essential' that the ship's boat have an unrefuelled range of 150 nautical miles at 12 knots at the top of Sea State 4, in the loaded configuration. A communications suite is also required to allow the ship's boat to communicate with the BCRV at a range up to at least 50nm, even when intervening land blocks the line of sight.

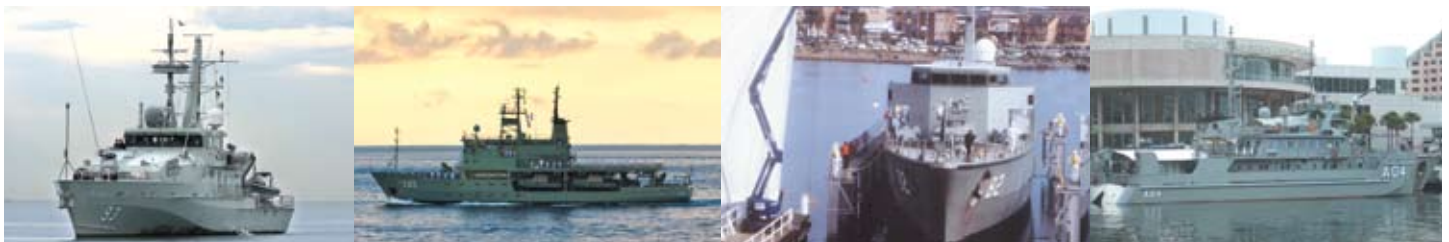
Operational requirements envisaged for each BCRV require all shipboard machinery, equipment and appliances to be able to operate normally in the sea conditions, wind, ambient temperature and humidity limits of the Marine Jurisdictional Zones, north of latitude 47 ('like-for-like')/50 (Enhanced) Degrees south. This includes the Australian Maritime Search & Rescue (AMSRR) zone (enhanced element only), the Australian Economic Exclusion Zone (EEZ), the Joint Petroleum Development Areas (JPDA) and the Australian Continental Shelf. Each BCRV will have a desig-

nated cargo deck area of not less than nine square metres for bulk stowage of miscellaneous cargo, palletised goods and recovered marine debris.

Specified tasks for the new BCRVs include (but are not limited) to: patrolling to provide a credible and visible presence to deter illegal activity and the capacity to provide response when tasked; conducting surveillance and data collection to detect actual or potential illegal activity; transporting Customs and other government officials; and transporting equipment required for these officials to perform their duties.

More challenging tasking includes: apprehending vessels and people undertaking illegal activity, including simultaneously disembarking and supporting two boarding parties; serving as a platform to support broader operations, such as providing communications and first response services in a security incident; providing a platform to process apprehended people such as illegal foreign fishers and unauthorised maritime arrivals – and transporting them to a port; towing apprehended vessels; retrieving debris such as discarded fishing nets and other environmental and navigation hazards; and supporting 'safety of life at sea' (SOLAS) activities.

Reflective of Customs' operational contingencies, each BCRV is to have a maximum three-metre draft and feature a collision resistant hull. The collision threats include Type 1 (Traditional fishing vessel. Double-ended with high bow and lateen mainsail), Type 2 (Traditional fishing vessel, mast well forward and long bowsprit), Type 3 (Motorised. Low



FOUR-IN-ONE-SOLUTION FOR RAN SMALL SHIPS: Project Sea 1180 aims to rationalise the Navy's small ships into either the same vessel (or a family of vessels) capable of accommodating a range of border protection, hydrographic, minehunting and related underwater warfare missions – by way of switchable mission modules – to replace functions currently separately served by the 'Armidale'-class patrol boats (far L), the 'Leeuwin'-class hydrographic ships (L), the 'Huron'-class coastal minehunters (R), and the 'Paluma'-class survey launches (far R).

DEFENCE & ADBR PHOTOS

deck. Small mast. Small – Medium length (generally 15 metres or less), Narrow Beam, Little or no superstructure) and Type 4 vessels (Motorised. Large (generally 20 metres or more in length), large beam).

In terms of supportability, each BCRV is required to be able to be maintained and supported at commercial facilities at various 'primary ports'. These are Adelaide, Albany, Brisbane, Broome,

Cairns, Dampier, Darwin, Eden, Fremantle, Geraldton, Gladstone, Gove, Hobart, Launceston, Mackay, Melbourne, Newcastle, Port Headland, Sydney, Thursday Island, Townsville, and Weipa. Secondary ports include Botany Bay, Bunbury, Burnie, Devonport, Esperance, Exmouth, Geelong, Henderson, Jervis Bay, Port Kembla, Port Lincoln, Portland, Warnambool, Western Port, Wollongong and Whyalla. **ADBR**

Cyber Security Centre – from page 12

Budget, and set to be fully operational by July.

CERT is to work in parallel with Defence's new CSOC to defend economic institutions, critical infrastructure, government agencies, businesses and home users from cyber threats. While more detailed plans for offensive cyber operations, to take an active role in influencing conflict outcomes, are highly classified, ironically no back up systems, or high level of redundancy has yet been built into the ADF's overall system-of-systems design.

Senator Faulkner told media that in 2009, the Department of Defence had investigated approximately 200 electronic security incidents on its own networks per month. Defence is said to have effectively responded to these activities, and no operations to date have been disrupted due to network invasion activities.

Offensive cyber warfare capabilities are already prevalent in most East Asian countries, with the finger regularly pointed at China as the source. Not wanting to directly confirm that Chinese activity was one of the principal drivers of the CSOC's establishment, Faulkner said, "it is true that the global community continues to experience an increase in cyber intrusions. We need to understand, that all systems that are connected to the internet are potential targets for hacking or cyber attack."

The Minister continued, "there has been speculation about nation states mounting cyber attacks, and there's also been specula-

tion about nation states mounting cyber attacks against Australian Government information networks. There is some evidence that electronic intrusion of Australian Government sites has been conducted from overseas, but I stress, the nature of the internet makes it difficult, perhaps impossible, to attribute those attacks to exact sources, and this comes back to again highlight the importance and significance of the establishment of this centre.

In moving to set up the CSOC, DSD has already transferred 51 of its staff into the Centre, with the number to grow to 130 over the next five years. At full strength it will comprise IT experts, engineers and analysts drawn from the Defence Intelligence Organisation, the Australian Defence Force, the Defence Science and Technology Organisation, representatives from the Attorney-General's Department, the Australian Security Intelligence Organisation and the Australian Federal Police.

Upon establishment of the CSOC, which has been armed with DSD's high-powered computing resources and advanced analytic techniques (for intrusion analysis, detection, threat assessment and incident response), the CSOC is ultimately expected to provide Defence with not only a comprehensive understanding of the cyber threat to government networks (as well as the private sector), but also a fully fledged cyber warfare capability. **ADBR**

ASC Stumbles – from page 20

was no longer any money left in their tin ... to relieve government of its awkward position where (in relation to naval warship construction, and in various guises), it remained owner, lead supplier and principal customer. Tanner's statement was short, citing "current uncertainty in global financial markets as presenting significant risks to a successful sale of the company."

Now on the verge of a decade-long AWD construction process that will similarly drive up costs across the enterprise and bleed off profits by way of a growing book of 'work in progress', the outlook for another stab at ASC privatisation is thus unlikely to improve until the next big shipbuilding contract comes around in 2015, with nomination of the prime contractor or alliance to build the 12 project Sea 1000 future submarines. Unfortunately for ASC, however, the Government has done little to underpin confidence that the company will walk straight into a contract on this project, with Ministerial comments on several occasions actually casting doubts on such a likelihood.

In a speech to the Sydney Institute on 4 November, Greg Combet noted project Sea 1000 would be "among the largest industrial projects ever contemplated in Australia ... (it is) perhaps at the margins of Australia's present scientific and cultural capacity. If managed properly, in addition to providing the Navy with 12 highly capable submarines, it will contribute to the modernisation of Australian manufacturing industry." Yet on the back of an estimated \$4 billion (of the initial \$5.1 billion project budget) spent in Australia, Combet noted, "we have found it difficult to maintain the industrial capacity built around this level of local content. Some of the ongoing maintenance problems of the 'Collins'-class are driven by this issue. Accordingly, we are giving serious thought to what industrial capabilities must be supported within country to sustain this project."

'COLLINS' LESSON LEARNED?: Turning to lessons learned from the 'Collins' project, Combet said, "project management performance during design and construction had been variable; the project management unit was split between Canberra and Adelaide; the location of the prime contractor in Adelaide led to poor communication and issues taking longer than they should to resolve; there was poor risk mitigation and inadequate contingency allocated; there was also insufficient recognition of the 'Parent Navy' challenge; and an underestimation of through life support costs. Moreover, the TLS contract was not in place early enough."

Moving forward, Minister Combet said the Government would need to consider for project Sea 1000 "a dedicated policy cell located in Canberra that could translate the strategic guidance into the actual detailed requirements of the future submarine. This would involve a deep understanding of the various trade-offs between desired capabilities and the impact on cost, schedule and risk. An appropriately resourced design and project management cell located in Adelaide, close to the builder, would also be needed. We have seen the benefits of this approach with the AWD project."

A study circulated at the close of 2009 by the Government-funded ASPI think tank, next went on to propose a series of models as to how the ASC could be restructured, in order to capture the company's submarine expertise for focusing on advancement of the new Sea 1000 program. It further noted, as have other studies, the remarkable quantum of investments made by various state governments (particularly South Australia & Western Australia) in common user facilities (CUFs), as part of a quest to invite new players into the market in order to drive down future platform construction and sustainment costs.

As this environment comes to pass, ASC's primacy – in terms of its incumbent status as Australia's principal submarine design agent & maintainer, as well as surface ship builder and maintainer – may end