

A new era as IPVs go **INTO SERVICE**

BY KEITH INGRAM

The arrival of four new inshore patrol vessels (IPVs) earlier this year heralded the dawn of a new era for the New Zealand Navy and the management of our exclusive economic zone (EEZ).

Compared with the inshore patrol craft of the 1990s and the Lake Class patrol boats of the mid-70s to late '80s, the new IPVs are like comparing a Ferrari with a Toyota Hilux. The IPVs have more than double the speed of the old IPC's and are highly manoeuvrable.

But not only do they have a lot of speed they can also travel a good distance.

New Zealand, as an island nation, has always maintained close links with the sea and our neighbours in the South Pacific. These links have been strengthened by the establishment of our 200 nautical mile EEZ and our government's resolve to manage and protect our rights, especially our fishing rights, within this zone. This commitment of support extends to our neighbouring territorial areas where we have international agreements or historic commitments with Australia to the west, many South Pacific nations in the north, down to the Ross Sea and Antarctica in the south.

The arrival of the first ship, a multi-role support vessel, *HMNZS Canterbury*, heralded an exciting start to what was one of the Defence Force's major acquisitions for the navy in recent times. Our navy was going to be in the position of having an extensive range of ships to meet not only the government's needs, but also those of joint agencies.

Project Protector fleet requirements were outlined

in the 2002 Maritime Forces Review, conducted by the Ministry of Defence in close cooperation with Joint Forces, the Ministry of Fisheries, Department of Conservation, Customs, Maritime New Zealand, Police and Treasury among others. In mid-2004, a study was undertaken in conjunction with the civilian agencies to decide the number of vessels and fleet mix necessary. It would be a requirement that the Project Protector vessels' capabilities include sealift, coastal and offshore patrol, and at-sea training for the RNZN. New Zealand's approach to the Protector ships was that they be designed, built and maintained to commercial standards, consistent with other contemporary navies. Essentially they would be well found ships, fit for purpose, built to civilian class shipbuilding standards and painted grey. They would however carry some weaponry, guns and small arms and be compatible with military communications and carry an extensive electronics and communications package. All ships will carry a manning level of RNZN personal, the ship's company, to man the operational, navigation and seagoing duties of the ships including the barges, sea-boats and military weapons. The MRV and OPVs will be capable of taking on board and operating a range of helicopters. In addition they will all have additional accommodation for the boarding of joint



HMNZS Hawea



Main conning position

agency staff in keeping with their design brief.

In April 2004, the Australian firm Tenix Defence Pty Ltd was chosen as the prime contractor for the Project Protector patrol vessels and multi-role vessel for the RNZN. On Thursday July 29, 2004 the Minister of Defence Phil Goff, signed the contract with Tenix and they began the final detailed design phase for the new ships before the first steel was cut early in 2005.

Besides the 131m multi-role support ship, there would be two 85m offshore patrol vessels and four 55m inshore patrol vessels. It is expected that the OPV's will be able to operate throughout New Zealand's 200 mile EEZ, the Southern Ocean and the South Pacific. They are expected to carry out a range of roles including patrolling, surveillance, search and rescue, humanitarian assistance, disaster relief, support to peacekeeping operations and sea training for the navy. As such they will conduct maritime patrols in conjunction with the P-3 Orion maritime patrol aircraft in the New Zealand EEZ, southern ocean and South Pacific. The surveillance tasks are primarily non-military in support of civilian agencies and will involve specialist staff from government agencies such as New Zealand Customs and Ministry of Fisheries.

As we look at the Devonport Naval Base it is the arrival of the four IPV's that have taken our attention. *Professional Skipper* magazine was invited aboard the *HMNZS Hawea* on her short delivery voyage to Auckland's naval base and was given a chance to have a sneak preview over these long awaited vessels. These four ships, probably the last military vessels to be built and launched at Whangarei for the foreseeable future, arrived at the base every two weeks over a six week period. Unlike civilian vessels, this is not a turn-key operation where you take delivery today and go fishing for baddies tomorrow. No. Once delivered the ships' company are taken over each vessel to learn the civilian systems. The secret squirrel military stuff is then installed along with the operating systems for patrol. This has to be carried out in conjunction with Lloyds who are the contracted class and survey company for the navy. Remember, these are civilian type ships built to purpose and painted grey. Many old hands around the dockyard suggest that this is where the danger lies. They comment that the ships should be painted white in Coastguard colours, which begs the question, why? To which the old salts comment. "Grey ships are built for war and hostilities," they suggest. They are built to withstand bullets and survive shells and bombs, bash wharves and ►



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HMNZS Pukaki

are bullet proof, was one comment. While these ships are great looking patrol vessels, the sailors are going to have to change their way of thinking when coming from the “war’ies” (ANZACs) to these ships.

Well, I guess there is some argument in this as the watertight integrity is different. These ships are not built as warships and their operating systems will be different. But then the likelihood of being shelled or bombed is not at real odds either. These vessels are clearly patrol, surveillance and support vessels, to conduct maritime surveillance in support of civilian agencies in the area from the shoreline to approx 200 nautical miles. Sure, they carry guns and so they should. Fishing boats and pirates are known to carry guns as well.

Fitted with active fin stabilisers the IPV’s provide a comfortable ride, and are far more sophisticated than their predecessors. They use modern, off the shelf equipment and automated systems, including unmanned machinery spaces and are significantly more capable in range, modern communications and surveillance systems ... and they look smart! So just what was the old seadog thinking? Maybe it was a case of “in my day we had ships of timber and men of steel”. But, while I well remember my days on the coast in a wooden HDML with fondness, even the navy has progressed since then.

Not only this, it is expected that the total sea-time patrolling requirement for these vessels will be around 950 sea days annually. Boys and gals, if you joined the navy to go to sea, your dreams are about to come true. Tasks in the northern half of our EEZ, north of and including the Marlborough Sounds and Tasman Bay are almost all inshore, with relatively constant levels of activity during the year. Once in service, it is not expected that all four vessels will be in port together very often. These inshore patrol vessels are built to a modified Philippine Coastguard San Juan class design. The Philippines Coastguard currently

operates four of this class and has done so since 2000 very successfully. The design changes were modified to meet New Zealand’s southern conditions and anticipated lengthy patrols and operating areas have been adjusted to accommodate their military role as well as the need to be maintained in civilian class survey requirements.

At 55 metres long, and with a contracted 3000–nautical mile range, they have some legs. Although the acceptance sea trials now show that the range is likely to be in the region of 7000nm, more than double the contracted requirement. They will contribute significantly to the patrolling of New Zealand’s 15,000km coastline.

The primary role of the IPV’s will be patrol and response to maritime security incidents within the inshore zone around New Zealand. In addition to patrolling, an IPV’s tasks will include surveillance, response and boarding operations, and search and rescue. Secondary roles for the IPV’s will be in New Zealand disaster relief and defence aid to the civil community. Given the above, from what we have seen so far, these ships are more than capable of delivering the goods.

The IPV’s will have a complement of 20 naval personnel and four Government agency officers. They also have the capacity to host 12 additional personnel onboard for general naval training or other duties.

They will inevitably become a frequent sight in our smaller ports around the coast as they go about their business. While the ships appear to now have a steaming range well in excess of the design 3000nm, this will be tempered by crew stores such as fresh food and the like as the fresh and frozen stores capability for a full crew and extra’s will be restricted to about ten days at most. Hence one of the reasons we will see them for short stopovers in our regional ports.

Unlike the Armadale class patrol vessels adopted by the Australians, these ships have a fully enclosed bridge, one



The captain with nav's at the chart table



Life raft storage
2 x 25 man



Guest cabin

deck higher, which gives the captain and steaming crew the added benefits of height and shelter. With unmanned machinery spaces the engineer sits at his own control and monitoring panel opposite the captain on the port side of the bridge. Between them sit the officer of the watch and the helmsman in front of a most sophisticated set of electronics to grace any conning position.

After winning the contract as preferred supplier to the Ministry of Defence Protector project, ENL dedicated a huge skills based resource over the last few years to equip the Protector vessels with the very latest in marine electronics from the world's leading manufacturers. To meet the exacting contract standards, ENL had to draw from years of experience in designing and integrating ships systems – this includes key navigation systems such as Furuno radars, GPS, gyro compass, auto pilot, CCTV systems, phone systems and all the required communication equipment to efficiently command and control these modern navy vessels.

ENL also teamed up with UK manufacturer Servowatch, to supply the IPMS (integrated platform management system) which monitors and controls all the ship's systems, from propulsions systems through to all the electrical and all auxiliary systems such as tanks, hatches, air conditioning and the like.

ENL customised its DataMaster communication system to provide the actual communication system to manage all voice and data communications on the Protector vessels. The system has been built at ENL's facility in Westhaven. It manages and integrates voice communications with navy specialist equipment such as crypto boxes. Their focus going forward is to efficiently support all ENL supplied equipment, using its technical service team as part of the contracts requirement, over the long life of the Protector vessels.

Because of the mix of off the shelf electronics and the

need to have a stable power supply, an Enertec supplied Mastervolt Mass 24/50 and Mass 24/100 battery charger is fitted to these patrol craft. Each vessel is also fitted with a Global Maritime Distress Safety System (GMDSS) panel that monitors the battery and battery charger systems on board.

Behind the main control positions and central in a raised position, is the main compass binnacle, which are repeated on each bridge wing. The navy still operates manual positioning and navigation as part of its seamanship training, as well as blind pilotage. Skills we are unfortunately seeing a demise of in the merchant marine as more and more reliance is placed on electronic aids and plots.

A forward facing trainable CTV, complete with zoom and low light capabilities, is an excellent observation and identification tool that far exceeds the capabilities of the watch binoculars. The main chart table is to the rear and the communications centre is to starboard behind the captain.

The bridge affords excellent all-round visibility with large sheltered bridge wings. One deck down and behind the bridge on each side are the two gun decks where a .50 cal machine gun will be mounted when on patrol. There is a further gun mount on the foredeck, which is only intended for show or when required to be mounted, on a serious patrol in areas of known hostilities. The for'ard gun position is quite exposed but has an arc of fire from two points (22.5 degrees) abaft the beam on one side around the bow to two points abaft the beam on the other. The wing guns are protected and have an excellent arc of fire, from dead ahead to astern, on each side. Boarding parties will also carry small arms when required.

Dropping down aft to the boat deck are two single point lift, powered davits, each hosting a 7.3m Zodiac RHIB. Further aft is the large clear quarterdeck with a single centrally mounted Maxwell 6000 warping drum for berthing lines. ▶



Moving forward, up the wide sloping waist to the foredeck deck, the ship is designed to shed water quickly. On the cable deck, a single bronze Maxwell 11000 anchor capstan and warping drum is mounted to operate the single port anchor and cable. There is a breakwater just aft of the cable deck that affords some protection to the forward gun position and helps to shed water, if and when, the bow burries in heavy seas. Aft of this, built into the forward screen, are four stowage lockers for ropes and fenders etc and an escape hatch from down below, all protected by watertight hatches. Moving aft the next deck up is the life raft deck where 4 x 25 man RFD SOLAS class rafts are mounted in quick launch racks. While the number are far in excess of the crew numbers, they do provide for redundancy loss in an emergency or they allow for the occasions where the ship might be assisting another vessel in emergency or disaster relief.

On stepping below, the grey has gone and one is met with a clean smart décor with a tasteful use of colours and timber panelling. Crew cabins rang from single berth to twin to three berth or more for passengers. The multi berth cabins are fitted with privacy bunk curtains and all have ensembles. The passageways, or flats as they known, are wide and clear of the usual warship paraphernalia often seen in ships gone by.

The messes are comfortable with separate dining for the officers in the wardroom, senior rates and junior rates messes. The passengers, depending on their status, dine amongst them. The main galley is functional and capable of catering for a full complement. All external doors are watertight and the hull compartments are separated by watertight doors, although we note in the aluminium superstructure the use of internal smoke stop doors and hatches is evident.

Down aft the main engine spaces are unmanned. The duty stoker does regular rounds and if an alarm were to sound on the engineer's panel in the bridge, grease hands are quick to respond. Not that there is a lot of grease evident as these machinery spaces are spotless.

Powered by twin MAN-Paxman 12VP185 marine diesels these babies are capable of delivering a service speed of 25 knots and may cruise at an economical fuel pinching speed of 12 knots on one engine.

There are two main gen sets in the engine room with a further auxiliary gen set up in the funnel space. An onboard sewage plant deals with the poos and wees department ensuring that the vessels remain environmentally friendly.

Although stabilised, we travelled down the coast in a brisk 30 knot sou-wester at 24 knots and the ship was comfortable with no need to use the stabilisers. No doubt there will be times when the crew will be thankful of them.

While not in service yet, we found these ships, at \$30m apiece, to be excellent value to the taxpayer. We note that there were delays on delivery from the shipyard TENIX. There might well have been a few shortcuts taken that were not picked up until the navy and its surveyors were doing acceptance trials. These have however, been rectified prior to delivery and the delay in getting the new sea-boats is a whole of navy contract problem, as the first vessels supplied have proven unsuitable for our navy's needs. These new sea-boats will be arriving shortly and once on board we will quickly see these new ships at sea.

The introduction of the four purpose built IPV's will be an exciting time for the Royal New Zealand Navy. My guess is that there will be many a senior officer watching these young commanding officers with envy, as the IPV's are significantly better than any of their predecessors.

The navy has never had anything as capable and sophisticated as these ships which are specifically designed to undertake a range of tasks, not just navy. They will become an essential tool in our patrol, surveillance and support work for several government agencies including customs, Ministry of Fisheries, DoC, Police, MFAT, NZDF and Maritime New Zealand. Watch out the bad guy...

specifications		
Length		55m
Beam		9.0m
Draught		2.9m
Displacement		340 Tonnes
Speed		25 knots
Range		3000nm
Main Engines		2x MAN – Paxman 12VP185, 2500 Kw at 1907rpm
Gear box		ZF7640NR
Stabilised		Yes
Armament		3 x .50 cal MG
Complement		Core ship's company: 20
Government agencies		4
Additional personnel		12
Total		36
Electro Optics Surveillance		Yes
HF Radio		2
SATCOM		Yes
Electronics		Extensive by ENL
Kennels		2
Boat Capacity		2 x 7.3m Zodiac RHIB
Deployable by		2 x powered davits