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THE MAGAZINE OF THE NAVY LEAGUE OF AUSTRALIA



CANADIAN SUBS EMERGE

> **A POTEMKIN** NAVY

HMAS HOBART AT BERBERA

> THE BATTLE **OF THE RIVER PLATE**



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The Navy League of Australia is holding a fourth maritime essay competition and invites entries on either of the following topics:

TOPICS 20th Century Naval History Modern Maritime Warfare Australia's Commercial Maritime Industries CATEGORIES A first, second and third prize will be awarded in each of two categories: Professional, which covers Journalists, Defence Officials, Academics, Naval Personnel and previous contributors to THE NAVY; and Non-Professional for those not falling into the Professional category. Essays should be 2,500-3,000 words in length and will be judged on accuracy, content and structure. PRIZES \$1,000, \$500 and \$250 (Professional category) \$500, \$200 and \$150 (Non-Professional category) DEADLINE 15 September 2010 Prize-winners announced in the January-March 2011 issue of THE NAVY. Essays should be submitted either in Microsoft Word format on disk and posted to: **Navy League Essay Competition** Box 1719 GPO, SYDNEY NSW 2001 or emailed to editorthenavy@hotmail.com. Submissions should include the writer's name, address, telephone and email contacts, and the nominated entry category. THE NAVY reserves the right to reprint all essays in the magazine, together with the right to edit them as considered appropriate for publication.



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Front cover: The RN Type 22 Batch 3 frigate HMS CORNWALL. The Batch 3's design was a direct result of the RN's experience in the Falklands Campaign of 1982. Her capability and size is closer to that of a destroyer than frigate. The four Batch 3 ships have actually been retained despite the RN's reduction in numbers of much younger ships due to their usefulness. They would feature prominently in any future clash over the Falklands. (USN)



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FROM THE CROW'S NEST

Themistocles

HOW DO YOU START A WAR WITH THE WEST?

On 26 March 2010 the South Korean Po Hang class corvette CHON AN was on patrol a mile off Baengnyeong, South Korea's north western most island. At 21:22 local time (12:22 GMT) an explosion tore a large hole amidships below the waterline. The corvette split in two at 22:40 and then sank three hours later. 58 sailors were rescued while 46 were killed. To the surviving crew, the sound and lack of activity on the ship suggested an external explosion.

South Korea has 24 Po Hang class corvettes. Each displaces approximately 1,200 tonnes. They are 80m long, have a maximum speed of 33kts, carry two triple mountings for Mk-46 ASW torpedoes, depth charge racks for 12 depth charges and a hull mounted Signaal PHS-32 active search and attack medium frequency sonar, amongst other weapons and systems.

The area of sea in which the sinking took place, is a shallow body of water strewn with reefs and thus thought to be safe from submarines. Although not impossible, North Korean midget submarines, all capable of carrying torpedoes or mines, could navigate their way through this area, and possibly have done so on numerous occasions.

The wreck was located in waters only 24 metres deep. Both sections of the ship were raised by large floating cranes in order to conduct an investigation.

After examining the wreckage of the ship as well as the fragments found at the bottom of the Yellow Sea, a joint investigation team of naval experts from Australia, South Korea, Sweden, the UK and the US drew the conclusion that a North Korean CHT-02D torpedo, which uses active/passive acoustic and wake homing and has explosive warhead of 250kg, sank the CHON AN.

According to an executive summary released by South Korea's Ministry of National Defence, much of the evidence indicated a heavyweight torpedo attack from detailed measurement analysis of hull structure deformation. Using computer-based simulations the joint investigation team were able to prove that a shockwave and bubble effect imparted by the detonation of a torpedo warhead, with a net explosive weight of 200-300 kg, at a depth of 6-9 m occurred about 3 m off the port side of CHON AN's gas turbine machinery space.

It observed: "Precise measurement and analysis of the damaged part of the hull indicates that a shockwave and bubble effect caused significant upward bending of the [keel], compared to its original state, and shell plate was steeply bent, with some parts of the ship fragmented.

"On the main deck, fracture occurred around the large openings used for maintenance of equipment in the gas turbine room and significant upward deformation is present on the port side. Also, the bulkhead of





the gas turbine room was significantly damaged and deformed. "The bottoms of the stern and bow sections at the failure point were bent upward. This also proves that an underwater explosion took place."

The report also indicated that residue from the explosive RDX, used in torpedo warheads, was discovered on parts of the hull. Also, the absence of any burn markings or fire indicated an external bubble jet.

The joint investigation team disclosed what it considered the most critical piece of evidence against Pyongyang: a torpedo propulsion motor, contra-rotating propellers and a steering section found at the site that matches a North Korean torpedo found by the Republic of Korea Navy (ROKN) seven years ago. The joint investigation team's report stated "The evidence matched in size and shape with the specifications on the drawing presented in introductory materials provided to foreign countries by North Korea for export purposes". They also stated that "The marking in Hangul, which reads 1 (No 1 in English), found inside the end of the propulsion section, is consistent with the marking of a previously obtained North Korean torpedo."

The detailed report concluded the torpedo was fired from a small North Korean submarine, probably a 277 tonne Song-O class midget submarine, that had left its base two to three days prior to the sinking, accompanied by a mother ship.

The Sang-O is a variation of a reverse engineered Yugoslav design which started building in North Korea during1995 at Sinpo, accelerating up to about four to six boats a year by 1996. However, production is thought to now be approximately two boats a year with some being exported to Iran.

There are at least two types of Sang-O, one with torpedo tubes and one capable of carrying up to 16 externally-fitted bottom mines. There is a single periscope and a VLF radio receiver in the fin. Rocket launchers and a 12.7 mm machine gun can be carried. Diving depth is 180 m. It has a maximum speed of 8.8kts dived and a range of 2,400nm. It has a Russian hull-mounted passive/active search and attack sonar and a merchant marine class I-band surface search radar.

The class is used extensively for infiltration operations of Special Forces and spies. The submarine can bottom, but swimmer disembarkation is reported as being normally exercised from periscope depth. One of the class ran aground on rocks near the South Korean town of Gangneung on 18 September 1996, giving the South Koreans a golden opportunity to study the class.



The raised stern half of the CHON AN. Modern torpedoes explode under the keel of ships instead of hitting the side. The explosion transfers its energy into the water creating a hydrostatic shock wave far greater in power than the explosive shock wave of the torpedo's warhead. This tends to lift the ship up so high that its back is broken from the stresses placed on the ship's hull no longer being supported by the water.

What the submarine was doing inside South Korean waters is unknown. Perhaps the corvette got too close and the submarine's mission was too important to be caught so it fired to protect the mission. Other speculation has the attack on the CHON AN as a deliberate strike in retaliation for a brief naval battle during November 2009 in which North Korean naval units were forced to withdraw.

As an aside, the sinking has demonstrated a certain level of skill on the North Korean submarine's part, given the shallow water and night time nature of the attack from a midget submarine with limited attack capabilities against a ship like the Po Hang class. It may also be indicative of the state of military readiness the ROKN.

Expectedly, Pyongyang has denied any involvement in the sinking and denounced the conclusion of the investigation as a "fabrication". It also warned of "all-out war" in the case of South Korean retaliation.

Anti-Western despots have always taken great interest in how the West reacts to situations such as this. They are always on the lookout for the West's vulnerabilities. It tends to embolden them with ideas to further weaken the standing the West has in the eyes of non-aligned nations. To prove the point, when NATO and the US were making demands of Slobodan Milosevic over Kosovo, he was unconcerned and kept mentioning the number 18. Outside the conference room the then US Secretary of State, Madeline Albright, asked one of the Serbians what this meant. She was told that in the non-western world it is known that it only takes 18 deaths to force the West to back down. The 18 referred to the US loss of life during a failed, and now infamous, snatch and grab raid by US Special Forces in Mogadishu during the Somalia operation 'Restore Hope', as depicted in the movie 'Blackhawk Down'. The US back down and withdrawal from Somalia over the deaths did not go unnoticed.

If the West fails to display its rightful outrage at this act of war then the world will became a very unsafe place, particularly for those in uniform on deployments. Nations such as North Korea will act in any way they see fit in the knowledge they can get away with murdering 46. International politics are no different to the school yard. If you don't stand up to the bullies then you will be a casualty, again and again.

But what of Australia? We have and will continue to exercise our ships with the ROKN in their waters. So what would the Rudd Government do if one of our ships was deliberately sunk and sailors lost? One would hope that it would be a case of 'Cry Havoc and let slip the dogs of war'. For our \$23 billion + per annum Defence budget there should be some serious and rapid bite in the ADF dog. But if the government's actions towards Afghanistan are any indication, then perhaps they would fail the stomach test.

In Uruzgan province in Afghanistan, Australian forces are being led and supported by the Netherlands. However, the Dutch are withdrawing, mostly due to the deaths of 21 of their brave soldiers. With them goes their leadership, field hospital, infantry forces, armour and supporting firepower. So far Australia has refused to step up to the leadership role in Uruzgan province, and is thus looking for someone else to supply the forces needed for our continued involvement. But why can't we? We led the East Timor coalition operation very successfully and are considered one of the better first world militaries. We have nearly all the equipment and men needed to replace the Dutch on a one for one basis. Our recent preferential treatment by the Americans with rapid acquisitions of high tech equipment such as M-1A1 tanks; C-17 transport aircraft; M-777 155mm artillery systems; F-18 Super Hornet close air support and strike aircraft and numerous UAVs and other special equipment was to enable us to 'pony up' in Afghanistan without the Americans' help. So what happens to our equipment lifeline when the American's see us as fair- weather friends? Our island navy relies on the US. And if our government is commitment phobic then perhaps we should avoid sending our forces to places like the waters off Korea, for fear of doing the right thing when great evil pervades.



A large schematic of a North Korean CHT-02D torpedo with the recovered remains of the torpedo used to sink CHON AN on the bottom right.

On 15th April 2009 a vessel carrying 47 passengers and two crew was apprehended off Ashmore Reef by HMAS ALBANY. This vessel was designated Suspected Illegal Entry Vessel 36. (SIEV36). The passengers were said to be Afghan asylum seekers. The following morning, with a boarding party from HMAS CHILDERS then aboard, SIEV36 exploded, burnt and sank. Five passengers lost their lives. Fifty-one people, including ADF(Australian Defence Force) personnel, were injured.

In the media there was speculation as to what had happened. There was comment about what could, or should have been done to prevent the injuries and loss of life. Inevitably, and despite all the facts not then being available, some of the comment was unfavourable to Navy.

In due course an Inquest was held. At the opening of the Inquest, Counsel assisting the Coroner put a number of matters to the Coroner in a way which put Navy in a most unfavourable light. This led to headlines such as "Navy errors blamed". Some of the witnesses also gave evidence critical of Navy or ADF personnel.

A number of members of the League contacted me regarding the submissions made to and evidence given before the Coroner. The general concern was that some of the things said were mistaken, misstated or just plain wrong. Notwithstanding these strongly held views it was decided that it would be unwise to offer a running commentary and that it would be best to wait upon the findings of the Coroner.

In the event, much that had been said which had been critical of Navy was refuted by the findings of the Coroner. A number of the witnesses, but not ADF witnesses, were expressly stated by the Coroner to have been telling lies. After all the facts were out, the Coroner's findings were over all favourable to Navy.

The Coroner did find that there were aspects of the search of the vessel that could have been better carried out. By the time the Coroner made this finding Navy had already taken action to remedy such deficiencies, a fact acknowledged by the Coroner.

The findings of the Coroner which deserve the widest circulation relate to what he described as "the great efforts, professionalism and bravery of the ADF members collectively in rescuing survivors from the SIEV36".

"The rescue was efficient, effective and in my opinion saved lives. There were many heroic acts that morning in the process of saving the passengers and crew of SIEV36 and also their treatment thereafter"

"Many passengers were saved because of their efforts."

Three examples cited by the Coroner exemplify the professionalism and bravery to which he referred and are worth quoting - ".... the video depicts what occurred. Keogh can be seen on the starboard side of the boat trying to direct passengers to leave the boat. He was very brave as were many others that day. He was unable to save one of the passengers who drowned in front of him. He tried to help and took hold of the seat of the wheelhouse which he intended to throw to the drowning man but it melted in his hand. Thereafter he remained on the burning vessel until he was extracted despite the obvious danger of further explosions and him being injured himself."

"Faust...was standing on top of the roof of the boat's coach house, the explosion blew him into the air and into the water, despite the shock and confusion engendered by this trauma, after rescue he remained on duty for several hours supervising the men under his command in relation to the rescue"

Much has been written about what are often called the asylum seekers boats and the many issues surrounding them. When an incident like SIEV36 occurs the debate is inevitably heightened.

In all the comment and discussion it is to be hoped that the work of the Navy and other ADF personnel involved will not be forgotten. So far to mid-May this year some 60 boats have arrived in Australian waters – that is an average of three per week. The chief burden of dealing with this influx rests with the mainly young members of our patrol boat crews.

It is to be hoped that whenever these boats are apprehended attention will be paid not just to the occupants of those boats, but also to the crews of the Navy patrol boats who day by day continue to carry out their duties and in doing so demonstrate the "efforts, professionalism and bravery" commended by the Coroner.

Suspected Illegal Entry Vessel (SIEV) 36 at sea North of Ashmore Island 11 minutes prior to incident. HMAS CHILDERS' boarding party embarked with Chief Petty Officer Dean Faunt standing on coach house. (RAN)

FALKLANDS 2010 FICKLE FRIENDS FAIL TO SUPPORT BRITAIN'S FALKLANDS SOVEREIGNTY**

By Charles Strathdee

In 1982 when Argentina invaded the Falkland Islands Australia, Canada, New Zealand and the US gave unequivocal political and diplomatic support to Great Britain. Argentina invaded the British territory on the grounds of sovereignty dating back to Spanish possession (not Argentine). Its military dictatorship government was facing a popular revolt and used long standing nationalist and emotional arguments about Argentine sovereignty to divert attention and regain popular support. Britain won the war to retake the islands which have since prospered on the back of fishing, sheep and tourism. In 2010 there appears to be a growing threat of renewed conflict with an Australian stock exchange listed company, BHP, directly involved.

The prospect of oil riches going to Britain rather than Argentina provoked the latter's political leader to seek support from Latin America and even the USA for renewed claims to the Falkland Islands, or Malvinas as they are known to Buenos Aires. A rig that had been towed from Scotland to British territorial waters off the islands began drilling at the end of February, prompting the Argentinean government to announce it would also not allow support vessels for the work to use its ports. Argentine President Cristina Fernandez de Kirchner was successful in garnering widespread political support throughout her region, even from traditional British ally Chile, to which the UK has in recent years sold three highly-capable Type 23 frigates, a Type 22 (Batch 2) frigate and other vessels. That arms deal - which saw

warships the Royal Navy still badly needed for its own operations decommissioned and put up for sale - seemingly turned out to have bought no support when Britain needed it. Chile backed the British in their war to evict an Argentinean occupying force from the islands in 1982, but nearly three decades on that amity was clearly forgotten. Predictably, Venezuelan military dictator Hugo Chavez, who is fond of buying influence at home and abroad with offers of cheap oil from his nation's wells, called for the Falklands to be handed over to Argentina. In a typically bombastic display on his weekly TV address to the nation, Chavez declared: "Look, England, how long are you going to be in Las Malvinas? Queen of England, I'm talking to you. The time for empires is over, haven't you noticed? If conflict breaks



FALKLANDS 2010 ... continued



Four new FGR-4 Typhoon fighters. Four of these 4th generation multi-role fighters are permanently based on the Falklands. The locals refer to them as "the sound of freedom".

> A Rapier 2000 air defence system near the RAF Mount Pleasant airbase. The Rapier units belong to the Royal Artillery. (RAF)



out...Argentina will not be alone like it was back then." While Argentinean and Venezuelan declarations could be dismissed by the UK, the move by President Kirchner to present her country's case to the United Nations committee on decolonisation was a little more troubling, especially when the USA seemed to be avoiding any statement of outright support for the UK. When US Secretary of State Hillary Clinton met the Argentinean leader in Montevideo, she merely encouraged the UK and Argentina to hold talks on the issue. An editorial in the *Washington Post* published in the wake of Mrs Clinton's meeting declared: 'You know that an Argentine leader must be in political trouble if the subject of the Falkland Islands has come up again.'

The *Post's* editorial claimed that the majority of Argentineans do not support the government of President Kirchner, which has not hesitated in the past to take an anti-American stance. The US Secretary of State, so the editorial claimed, had urged the two sides to talk through their differences while declining to be drawn in as a mediator in the dispute.

The British government rejected any thoughts of talks with Argentina over the Falklands, which have been administered from London since 1833, and are populated by 6th generation descendants of UK nationals who express a strong and unwavering desire to remain under the benign control of Britain.

Lying about 400 miles from the Argentinean coast, the Falklands were of course fought over in 1982, when Britain despatched a naval task force to remove an occupying force sent to invade the islands after the Americans appeared to indicate they would not oppose the move. It also came at a time when it seemed the UK was about to divest itself of the same warships - namely carriers and amphibious assault ships - that it later used to launch a liberation force of 6,000 troops including Royal Marines. Today, the Royal Navy is once again under threat, with strong opposition in some quarters of the UK to the construction of the sort of strike carriers - QUEEN ELIZABETH and PRINCE OF WALES - that no aggressor, certainly

not the weak Argentinean fleet, would ever go up against. Similarly the lce Patrol Ship HMS ENDURANCE, which was badly damaged in an incident off Chile at the end of 2008, may be scrapped. The Argentinean invasion of 1982 was encouraged by a decision by Secretary of State John Nott to scrap a previous ENDURANCE as part of sweeping cuts in the RN that were another green light to Buenos Aires.

In 2010, there are 1,000 British military personal ashore in the Falklands rather than a small number of Royal Marines, as well as fighter jets based at a NATO standard airbase that wasn't there 28 years ago.

Fortress Falklands

Mount Pleasant Air Base - RAF

No. 1435 Flight - 4 x FGR-4 Typhoon multirole fighters;

No. 1312 Flight – 1 Vickers VC-10 air-air refueller & 1 C-130J Hercules;

No. 1564 Flight - 2 Sea King HAR-3s (SAR);

3 x mountain top long range radar stations (approx 70 personnel); HQ, communications, air defence (Rapier SAMs) and logistics elements (approx 650).

Mare Harbour - RN

HMS PORTLAND (Type 23 frigate) rotation ship;

HMS CLYDE (Offshore Patrol Vessel);

HMS SCOTT (Survey vessel);

RFA WAVE RULER (support ship);

1 x SSN (probably).

Mount Pleasant - Army

'A Company', 1st Battalion, Yorkshire Regiment (150 troops) on rotation;

Signals, Engineer and Logistics elements (approx 110);

Falklands Islands Defence Force (Territorial – light infantry company, approx 100);

Force usually has 1-2 CH-47 Chinook heavy lift helicopters for transport but these are currently deployed to Afghanistan and now supplemented by two leased Sikorsky S-61 transport helicopters from the oil industry.

The Royal Navy also maintains a permanent patrol ship, HMS CLYDE, on watch in and around Falklands waters and other dependencies in the far South Atlantic. When Argentina's rhetoric exploded, the Type 42 Batch 3 destroyer HMS YORK was on rotation in the South Atlantic, as well as the deep ocean survey vessel HMS SCOTT, filling in for some of ENDURANCE's duties.

There was also speculation about a British nuclear-powered attack submarine being sent to the South Atlantic but this could not be confirmed. The lukewarm American backing for Britain is a product of what one commentary writer described in an editorial for The Australian as (then) Prime Minister Gordon Brown and President Barack Obama behaving with "myopic stupidity towards their own long-term national interests of a strong alliance." The same writer, Hal G. P. Colebatch, added: "Both leaders seem addicted to quick fixes, spin and gestures and show no sign that they need each other long-term." Colebatch accused Tony Blair and Gordon Brown of leaving Britain with "a dwarfish, bathtub navy". He also pointed out that a failure by the UK to put up a fight against Argentinean aggression would spell the end of Britain's position as a world power. He also maintained the failure of the USA to unequivocally support the UK in any serious future confrontation with Argentina would destroy the Anglosphere defence relationship for good. In the UK, commentators posed the question: "Why should British servicemen and women be

shedding their blood in support of an Americandriven War on Terror in Afghanistan if the USA can't be bothered to return the favour?"

It was an uncomfortable question to ask. It was being said that the UK's recent decision to make US-sourced intelligence material public, and the release of the Lockerbie Bomber last year by the Scottish government, had deeply offended the White House. Those two events were allegedly behind the refusal of the Obama administration to lend full support to the USA's most important war-fighting ally. Britain appeared to be determined to face-down Argentinean claims on the Falklands, with then Foreign Secretary David Milliband telling MPs in the House of Commons: "The Government have made it clear that we have no doubt about the United Kingdom's sovereignty over the Falkland Islands. The principle of self-determination underlies that. There can be no negotiations on the sovereignty of the Falkland Islands unless and until such a time as the Falkland islanders so wish it. They have made it clear that they have no such wish."(i) The then Foreign HMS ILLUSTRIOUS. Although RN numbers may be smaller now that in 1982 the quality has risen dramatically. The astute observer will note here the flight deck and island alterations from the original invincible design. The two remaining invincibles, ILLUSTRIOUS, and ARK ROYAL, have been converted to specialised strike/attack carriers with up to 16 GR-9 Harriers with considebale payload and range advantages over the Sea Harrier and GR-3 used in 1982. (R)

Secretary did not rule out working towards increased co-operation with the Argentineans via the G20. In the USA some Republican politicians criticised the Obama administration for failing to unequivocally support the UK over the Falklands. In Argentina, President

· - -----

The LPH HMS OCEAN with an AH-64D Apache attack helicopter landing. Both capabilities were missing from the 1982 and would form a major and effective part of the UK's rapid reaction to any military threat to the Falklands. (RN)

Kirchner's ploy to distract her peoples' attention from economic and social problems appeared to have failed, with opposition politicians renewing their assault on her administration.

In the USA noted historian and academic Victor Davis Hanson observed in a commentary for the *National Review* that the UK is a NATO ally and has "bled side-by-side with America in two world wars, Korea, and two conflicts in Iraq, and continues to do so in Afghanistan." He pointed out that the UK and USA have close cultural ties and while they do not always support each other a "centuries-old friendship should earn Britain special support from us in its disputes, even in the relatively unimportant Falklands mess. If Britain is not considered an ally, then America no longer has real allies...."

(*) This article was published in the UK's leading Naval magazine *WARSHIPS - INTERNATIONAL FLEET REVIEW* in its April 2010 edition. It is reproduced here with the kind permission of its eminent editor, lain Ballantyne.

ⁱ This statement has recently been reaffirmed by the new UK Coalition Government of David Cameron.

The current Falklands guard ship, the Type 23 class frigate HMS PORTLAND, leaving the UK for the journey south. (RN)

CANADIAN SUBS EMERGE(*)

By David Pugliese

After frustrating delays, two of the Royal Canadian Navy's Victoria-class boats, HMCS CORNER BROOK and HMCS VICTORIA will be operational this year.

After years of delays and technical problems, the Canadian Navy's diesel-electric submarine fleet is on the rebound with a plan to have fully operational boats on the east and west coasts by 2012. HMCS CORNER BROOK will be operational shortly after a brief maintenance period and HMCS VICTORIA will be back in the water in spring after a lengthy refit. HMCS WINDSOR will return to operations in the Northern hemisphere spring 2012 after an extended dock work period and the fire-damaged HMCS CHICOUTIMI is expected to be operational in early 2013. It's been a long road since the 1998 purchase of the second-hand boats from the Royal Navy: a period marked by ongoing technical problems on all four vessels as well as a fatal fire onboard CHICOUTIMI. But that is all in the past for the underwater fleet, according to Canadian Navy officers. "By the beginning of 2012, what we have assigned to ourselves is full operating capability, which is a weaponised platform in each of the ocean spaces in which we base," said Vice Adm. Dean McFadden, the head of the Canadian Navy. Closely watching the developments on the Victoria-class submarine programme is the U.S. Navy. With the Canadian Navy one of its closest allies, the U.S. Navy is keen to have the boats operational, not only for force generation but to provide valuable training platforms for crews conducting anti-submarine warfare (ASW), Canadian and American officers said. "The U.S. and Canadian Navy submarine force partnership has a long history of strong cooperation in training, exercise and operational settings," said Vice Adm. John J. "Jay" Donnelly, commander of the U.S. Navy's Submarine Force. "Canada's respected submarine force is a most valuable partner in the undersea battlespace." The Canadian boats originally were U.K. Royal Navy Upholder-class submarines, removed from service in the early 1990s after a brief period of operations. Canada paid 750 million Canadian dollars (USD\$690 million) for the boats and related equipment. Delivery of the subs to Canada took place between 2000 and 2004 but problems materialised almost immediately. Highpressure welds had to be replaced and cracks were found in some of the diesel exhaust hull valves on the four boats. Steel piping needed to be replaced, as the submarines were put into storage in the United Kingdom with water in their fuel tanks. VICTORIA also underwent repairs after a dent was discovered in its hull during a dry-docking period. In addition, there have been delays in installing Canadian equipment, such as the weapons fire-control and communications systems. Under the Canadian programme, the Navy is transferring parts of the fire-control systems from its previous fleet of Oberon submarines so the Victoria class can use the Mk-48 torpedo. A Canadian communications suite also was installed and modifications done so the submarines could use a Canadian towedarray sonar system. From October 2004 to May 2005, the fleet was



ordered dockside as a safety measure after a major electrical fire onboard CHICOUTIMI off the coast of Ireland killed a Canadian Sailor and injured eight others. At the time, CHICOUTIMI was transiting the Atlantic, coming to Canada for the first time as the last of the submarines to be delivered. Since then, Canada has had limited use of two of the boats: WINDSOR and CORNER BROOK. After a series of tests, VICTORIA went into dry-dock for a refit. The amount of work done on the fire-damaged CHICOUTIMI has been limited because of funding issues. Although WINDSOR and CORNER BROOK did not have full operational weapons capability, they have been used on exercises and some operations. In 2005, WINDSOR took part in exercises on the east coast and in spring 2006 was involving in



training with the USS ENTERPRISE carrier strike group. It also took part in surveillance missions on Canada's east coast. In 2008, CORNER BROOK was sent to the Caribbean Sea in support of the U.S.-led Joint Interagency Task Force South's counterdrug operations. It also took part in *Operation Nanook* in the eastern Arctic Ocean last August. But the Canadian Navy leadership has expressed its frustration about the ongoing delays in the submarine programme. In the Navy's 2008 Strategic Assessment, thenchief of the maritime staff Vice Adm. Drew Robertson noted: "The Victoria-class submarines continue to be judged more by their protracted progress toward full operational capability, due principally to delays in awarding of essential submarine maintenance contracts, rather than by their significant

accomplishments at sea." McFadden points out that the ongoing work on the submarines has been a learning experience for Canada. "The Brits never did a refit on those boats," he said. "So what we're doing with VICTORIA on the west coast now, and with WINDSOR on the east coast, is the first deep refit of those boats. That's why it has taken longer to get them back operational than we would like." VICTORIA will be the first submarine to come out of the refit in the Northern hemisphere summer and then become the first tactically operational boat outfitted with weapons, McFadden said. Having VICTORIA fully operational also will mark the first time since 1974 that a Canadian submarine has been assigned full time to the west coast of the country, said Rear Adm. Tvrone Pile, commander of Canada's Pacific fleet, "It's a big step," he said. "The capacities of those particular boats are going to be something new on the west coast." Pile said he has been keeping his U.S. Navy counterparts advised of the progress on VICTORIA. "We're making sure they are aware of our schedule and that, when we do become operational with the

HMCS CORNER BROOK (front) with HMCS WINDSOR. After delivery these were the only two submarines available for training and exercises. However, they were not classified as an operational capability. (RCN)

CANADIAN SUBS EMERGE. . . CONTINUED

boat, we would obviously like to work with them," he said. "We would like to gain benefit from them as they would like to gain from us." Part of the value of the Canadian boats for the U.S. Navy is that they will provide a unique opportunity for American maritime forces to conduct training with diesel-electric submarines. "The extent of the global submarine threat has increased dramatically due to the proliferation of advanced diesel-electric submarines," said Donnelly. "Today, 40 nations operate a total of more than 400 submarines, many of which are the modern diesel boats that are exceptionally quiet. "The value of having Canada's highly competent diesel submarine force as a training and operational partner cannot be underestimated," he added. "The advantage of jointly beneficial ASW training for our navies as a result of our close geographical proximity is clear." The United States has long had an interest in Canada's acquisition of the submarines. Members of the Clinton administration, including then-Defense Secretary William Cohen, strongly supported Canada purchasing the boats. At one point, the United States suggested it would help finance the purchase, but that offer was not followed through on. In 1997, when promoting the purchase to the government, the Canadian Navy highlighted the fact that the submarines not only would support ongoing defence cooperation with the United States but also help preserve Canada's underwater sovereignty. Both still hold true today, according to Canadian naval officers. McFadden said that having the boats operational will give Canada a better understanding of what is going on in its waters and a more complete way to control that maritime space. The class is expected to remain in operation into the 2030s. "What we are bringing on line is a very sophisticated, quiet (platform)," he said. "We have two strategic weapons in this country; special operations forces and the submarine. So, ultimately, it is the absolute sea-control platform."

(*) Reprinted with the kind permission of Seapower, the official publication of the Navy League of the United States.

Victoria class

Displac ement :	2,185 tons surfaced 2,400 tons submerged
Length:	70.26 m (230 ft)
Beam:	7.6 m (24 ft)
Draught:	5.5 m (18 ft)
Propulsion:	Diesel-electric (37 MW) 2 Paxman Valenta 16 RPA diesel generators, 4,070 hp (3,035 kW) 2 GEC, 5,000 kW motor-generators
Speed:	12 kts (14 mph; 22 km/h) surfaced 20kts (23mph; 37 km/h)+ submerged
Range:	1 0,000 nautical mile s (19,000 km) at 1 2 kts (22 km/h)
Test depth:	200 m (660ft)
Complement:	53 officers and crew
Armament:	 6 × 21in (530 mm) torpedo tubes 18 × Mark 48 torpedoes



The submarine HMCS WINDSOR (front) and the Halifax class frigate HMCS MONTREAL. WINDSOR has been providing an ASW training function for surface ships since her arrival in Canada. After her current refit she will be considered fully operational hopefully by the Northern Hemisphere spring of 2012. (RCN)

RUSSIAN NAVAL AMBITIONS" A POTEMKIN NAVY?

By Otto Kreisher

Despite Russia's ambitious plans to restore its fleet, experts doubt its ability to rival U.S. naval forces.

Reinvigorated by dynamic and nationalistic young leaders, and bolstered by revenue from its vast oil and natural gas reserves, Russia appears to be moving aggressively to regain its superpower status by rebuilding and modernising the badly decayed remnants of the oncepowerful Soviet military.

A key part of that restoration, based on the pronouncements of naval officials, would be the creation of a blue-water fleet to rival the U.S. Navy.

Adm. Vladimir Masorin, then-commander of the Russian Navy, restated that ambition in late 2007, when he announced plans to build six aircraft carrier strike groups in 20 years. That would give Russia the world's second largest fleet of carriers, after the United States. Masorin also declared that the Russian Navy was re-establishing its presence in the Mediterranean and the Atlantic.

Then during the last northern hemisphere summer, the U.S. Navy tracked two nuclear-powered Russian attack submarines cruising in international waters off the Atlantic coastline, creating a brief spurt of concern and protest in Washington and elsewhere in the country.

In November 2008, a Russian warship steamed into the Caribbean, visiting Venezuela to bolster rabidly anti-American President Hugo Chavez and counter U.S. incursions into the Black Sea. U.S. Navy and Coast Guard ships had provided humanitarian supplies to Georgia several months earlier during that nation's clashes with Russia over the disputed region of South Ossetia.

And a rearmament programme, recently approved by President Dmitry

Medvedev, for the first time has put development of the Russian Navy on an equal footing with the country's strategic nuclear forces. Under the programme, 25 percent of the USD\$192.2 billion allocated to upgrade and re-equip all of the Russian military through 2015 would go toward building new ships.

But those pronouncements and naval excursions may be little more than a 21st century "Potemkin Village,"(i) aimed at hiding a dramatically diminished Russian fleet with little immediate capability to restore anything close to the might of the Cold War Soviet armada.

"The basic point we should always keep in mind: there is a big space between their statements and what they can actually accomplish," said Dmitry Gorenburg, a Russian Navy authority at Harvard University and the Center for Naval Analyses.

Instead of a naval renaissance, Gorenburg agreed with Alexander Khramchikhin, chief analyst at the Institute of Politics and Military Analysis in Russia, who wrote in the Russian newspaper *Nezavisimaya Gazeta* late last year that: "Any person who can see the real situation well understands that in a few years the Russian Navy as a whole, as well as all four of its component fleets, will cease to exist. This is already absolutely inevitable."

George Fedoroff, the senior intelligence officer for Russia at the Office of Naval Intelligence (ONI), however, has a more favourable view on the Russian Navy, though he acknowledged that it does have problems and is a shadow of the former Soviet armada.

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The Udaloy class destroyer ADMIRAL TRIBUTS off the Somalia coast during antipiracy operations. (USN)

RUSSIAN NAVAL AMBITIONS. . . continued



As of January, the Russian Navy had 90 major combatants — ships able to operate away from home waters — Fedoroff said in a written response to questions. That included 34 surface ships and 56 nuclear and diesel-electric submarines, of which 14 are ballistic missile boats. About one-third of those ships are not operational at any one time, he said.

That is about one-sixth the size of the fleet at its peak in the early 1980s, when the Soviet Union had a global reach in its competition with the West, Fedoroff said.

Khramchikhin blamed the "inevitable" demise of the Russian fleet on the huge waste of Navy funds on the badly flawed development effort of the submarine-launched Bulava strategic missile — NATO designation SS-NX-32 — that was intended to arm the new Borei class of strategic submarines. The seventh of 12 test shots failed Dec. 9 and the future of the Bulava and Borei programmes is in doubt.

In a Nov. 5 entry entitled "Update on the Navy" in his "Russian Military Reform" blog, Gorenburg did not attribute all of the Russian Navy's problems on the Bulava, but agreed that Khramchikhin was "exactly right in his analysis of the future trajectory of the Russian Navy."

Rather than worrying about the emergence of a mighty new Russian Navy, he wrote, "we should be thinking of it as living out the last years of the leftover glory of its Soviet years."

"The reality is, it really comes down to the shipbuilding industry. It's just not up to building ships," due to a loss of expertise and aging facilities, Gorenburg said. "None of the ships they forecast actually get built on time." But Fedoroff said Russia "is, in fact, currently engaged in rebuilding the fleet," focusing mainly on new missile patrol boats and two classes of frigates. Construction of a new destroyer is expected to start midyear, he said.

The stated goal of building aircraft carriers to match the U.S. Navy faces an even bigger obstacle, Gorenburg said, because the yard used to build carriers during the Soviet era was in Nikolayev, Ukraine, now an independent nation that is often on unfriendly terms with Russia.

Fedoroff said the pronouncements about six carriers "represented a reasonable proposal and not an actual approved plan."

The ONI analyst agreed Russia would have to build a larger shipyard and said there has been no decision on where to do that.

"Therefore, while we are confident there will be a future new Russian aircraft carrier," Fedoroff said he did not expect the first ship to be operational "until the end of this decade at the earliest." And it "would take decades and huge resources to build two or three carriers, much less possibly six."

Most of the Soviet "carriers" actually were large cruisers with a modest-sized flight deck and ski-jump bow that could handle only

short takeoff and landing jets, similar to the AV-8 Harriers used by the U.S. Marine Corps.

An attempt to build American-sized carriers in the 1980s failed.

The carriers were proposed as 90,000-ton, nuclear-powered ships with steam catapults similar to the U.S. Nimitz class. But due to the cost and complexity, the design was reduced to 65,000-ton, oilburning ships that used the bow ramp to launch conventional Su-33 multipurpose jets. Officially called a "heavy aircraft-carrying cruiser," the first ship of the class, the 1,000-foot-long KUZNETSOV, also carried a large number of anti-submarine and rescue helicopters.

Launched in 1989, KUZNETSOV has been plagued by mechanical and structural failures, including nearly sinking during sea trials in 2003.

The second ship in the class, VARYAG, was only 70 percent completed after nearly a decade of construction. It was seized by Ukraine when the Soviet Union disintegrated. China bought it in 1998 to use as a



model for its own carrier plans.

Russia has been able to continue building submarines, for its own use and foreign sale, Gorenburg said. The diesel-electric Kilo-class attack boats are in service in several nations, and Russia now is selling or leasing some of its nuclear-powered subs.

Noting that Russia is conducting sea trials on the first of the new Petersburg class of conventional subs, with additional units under construction, Fedoroff said, "If this design lives up to its advertisement, it should be the quietest and most capable dieselelectric submarine ever."

Fedoroff also expected the imminent launch of the first of the new Severodvinsk class of guided-missile submarines (SSGNs), which he said combine the missions and capabilities of the Akula attack boats and Oscar guided-missile subs "in being able to fulfil anti-submarine, anti-surface ship and land-attack missions."

Russia plans to build seven or eight of these submarines, he said.

Despite the problems with the Bulava missile, Fedoroff said, "the maintenance of the nuclear strategic deterrent force, including the SSBNs [ballistic-missile subs] as the sea-based leg of the triad is Russia's highest military priority."

But, he added, Russia needs to successfully develop the Borei SSBN and the Bulava "in order to have a long-term sea-based strategic deterrent force."

Russian leaders have vowed to continue tests until the missile succeeds, Fedoroff said, noting, "We have no reason to doubt their resolve."



But Russian submarines have had a checkered history, including a number of fatal accidents and losses at sea with all hands, most notably the August 2000 sinking of the Oscar-II class submarine Kursk that killed all 118 crew members.

In one recent event, the fire suppression system on the Akula II-class nuclear-powered attack submarine NERPA accidentally released deadly fire suppression gas into the sleeping quarters during sea trials on Nov. 8, 2008. Three crew members and 17 shipyard workers were killed.

After repairs and additional tests, NERPA was leased to the Indian Navy last year for USD\$650 million for 10 years. Final delivery is expected later this year.

In his blog late last year, Gorenburg wrote that because all of the

shipbuilding projects have been delayed repeatedly, "there are few replacements in the works" for the existing ships reaching the end of their expected service life.

Unless something changes, "in another 10 years, its major ocean-going ships will be gone, with nothing but a few corvettes and a couple of French LHDs to replace them," he wrote.

The "French LHDs" was a reference to announcements late last year by Russian Navy officials that they are considering buying a foreign-made, helicopter-carrier assault ship, such as the French-built MISTRAL (see *THE NAVY* Vol 71 No.4 p20). The lead ship of the class, MISTRAL, a 21,300-ton ship about two-thirds the size of the U.S. Tarawa-class amphibious assault ships, visited St. Petersburg late last year to be inspected by Russian officials, and included some flight trials with Russian helicopters.

But Adm. Vladimir Vysotsky, the Russian Navy chief, said in December that the navy also was talking to the Netherlands and Spain about acquiring that type of ship in an effort to

modernise the aged fleet. Russia was proposing to buy one ship built in the foreign shipyard and the rights to build more in its own yards.

The idea of Russia obtaining a ship that would facilitate amphibious and special operations actions provoked protests from its neighbours, including Georgia.

Six U.S. senators, all Republicans, sent a letter to the French ambassador in December 2009 warning against such a sale. And US Congress Rep. Ileana Ros-Lehtinen of Florida, the top Republican on the House Foreign Affairs Committee, introduced a bill that would express the sense of the US Congress that no NATO nation should sell offensive weapons to Russia.

But some analysts believe that Russian purchases of military

The second of the new Project 1154 Yastreb/Neustrashimyy class frigates YAROSLAVL MUDRY departing for sea trials. The Neustrashimyy class are the largest and most modern ship the Russians are building at present.



RUSSIAN NAVAL AMBITIONS. . . continued

equipment from a NATO nation could aid the normalisation of relations between Russia and the West, which has been a key goal of US President Barack Obama's foreign policy initiatives.

Although Gorenburg said the Russian ships are in such bad material condition the major combatants never go far from port without a rescue ship, Fedoroff contended that "the fleet is not that bad."

He noted that Russian warships have been operating away from home fairly actively for years, including contributing to the antipiracy patrols off Somalia.

For the future, Fedoroff said, achievement of Russia's ambitious shipbuilding plans "is a huge challenge, which clearly is being addressed at the highest levels of the Russian government.

"President Medvedev has endorsed the priorities and Prime Minister (Vladimir) Putin has promised that appropriate resources will be made available for rearming the Russian Armed Forces, including the Navy," the ONI analyst said.

(i) Potemkin village is a phrase based on a historical myth. According to the myth, there were fake settlements erected at the direction of Russian minister Grigory Potyomkin to fool Empress Catherine II during her visit to Crimea in 1787. According to the myth, Poteomkin, who led the Crimean military campaign, had hollow facades of villages constructed along the desolate banks of the Dnieper River in order to impress the monarch and her travel party with the value of her new conquests, thus enhancing his standing in the empress' eyes.

(*) Reprinted with the kind permission of Seapower, the official publication of the Navy League of the United States.



The Russian aircraft carrier KUZNETSOV. Her embarked air wing consists of Su-27 Flanker fighters, Su-25 Frogfoot attack aircraft and Helix AEW&C (Airborne Early Warning & Control) helicopters. Making her a formidable opponent to anything except a USN super carrier.

The massive Kirov class nuclear powered guided missile heavy cruiser. Five ships were planned but only four were launched. Their appearance was the main reason for the USN reactivating the lowa class battleships. Only one Kirov class ship remains active, PETR VELIKIY, with ADMIRAL LAZAREV held in 'conservation status' in the Pacific Fleet at Vladivostok and ADMIRAL NAKHIMOV awaiting funds to complete her 1999 overhaul.



A Russian Akula II class SSN. Nine of these still formidable SSNs are thought to be active in the combined Russian Fleets with one being leased to the Indian Navy.



FLASH TRAFFIC

RN TYPE 26 PROJECT STARTED

On 25 March 2010, the UK Ministry of Defence (MoD) announced that it had signed a GBP127 million (USD\$189 million) contract with BAE Systems for the assessment phase of the Future Surface Combatant (FSC) Programme to replace the RN's Type 22 Batch 3 and Type 23 class frigates. The FSC programme will be the lead contractor and systems integrator until programme completion. BAE is now working with other key industry partners (Thales UK, Babcock Marine, Qinetiq and BMT Defence Systems) to develop the business case and cost model for the whole life of the programme.

The four-year assessment phase will solidify the capability and delivery requirement as well as the specifications (including those identified during the UK Strategic Defence Review) for the detailed design and manufacture phase of the programme. The assessment phase will cover the first two of three surface platforms that will encompass the FSC programme: the FSC-C1 destroyer (now known as the Type 26) and the FSC-C2 frigate.

The assessment phase will also take into account all future export opportunities in the hopes of gaining foreign sales and reducing costs. Historically, export sales have not been considered until after the final design and construction contract have already been in place, reducing the chances for export opportunities.

An agreed concept design will go before the MoD's Investment Approvals Board in the second half of 2010 for consideration - and possible amendment - as part of a wider UK Strategic Defence Review. In the first half of February 2011, the detailed design stage will mature the agreed concept design into a production-ready model ready for 'main gate' review.

According to a timetable set out by the FSC Team at the MoD's Defence Equipment & Support (DE&S) organisation, steel for the first vessel will

Up to 10 Type 26 ships are planned.

01

be cut in late 2015 or early 2016, a keel-laying ceremony will be held later in 2016, launch is scheduled for April 2018, and the likely in-service date will be towards the end of 2021.

The FSC C1 baseline design suggests a ship 141 m-long and displacing 6,850 tonnes. It will be equipped with a low-frequency active variable depth sonar and two launchers for the Future Local Area Air Defence System (Maritime), firing the Common Anti-air Modular Missile.

Options include a vertical launch system for Tomahawk or Storm Shadow land-attack missiles, or alternatively a modified M270 guided multiplelaunch rocket system. The Harpoon anti-ship missile system is also an option, while the main gun will be a 127 mm, 155 mm or refurbished 4.5 inch (114 mm) Mk 8 mount.

Aviation facilities include a flight deck capable of supporting a Chinook helicopter, a hangar for a Merlin-sized helicopter and a smaller hangar for unmanned aerial vehicles. Type 26 will become the lead platform for unmanned vehicles but will not be responsible for their development and procurement.

Below the flight deck, a mission bay and stern dock will hold four 9 m rigid-hull inflatable boats, the towed array sonar and a surface ship torpedo defence system. Alternative options for the mission bay will be examined as this feature is considered a design driver.

The frigate will have an all-electric propulsion system or a hybrid propulsion drive, giving a range of 7,000nm at 18kts. Early concepts indicate a ship's company of 150 personnel plus an embarked marine force of 36.

Current assumptions call for the construction of up to 10 Type 26 ships.

CONSTRUCTION OF AWD'S UNDERWAY

A computer generated image of the proposed Type 26 frigate. Current thinking suggests the ship will be 141 m-long and displace 6,850 tonnes.

Full production of Australia's three Hobart class

Air Warfare Destroyers (AWD) is now underway. In a ceremony at the BAE Systems shipyard in Melbourne, Greg Combet, Minister for Defence Materiel and Science announced that full production of hull blocks has now commenced at three shipyards: ASC in Adelaide, BAE Systems in Melbourne and Forgacs in Newcastle.

More than 500 people are now working on building hull blocks for the AWDs, and this will grow to a total workforce in the three shipyards of over 1,000 people. Overall, more than 3,000 people will be working to build these warships around Australia and importantly, about 200 apprentices will join the project in the next few years.

Each ship will be made up of 31 blocks fabricated at the three shipyards. The construction of each ship will require 51 kilometres of piping, 427 kilometres of electrical cable, 4,700 tonnes of steel, 138,000 litres of paint, 4,700 mechanical valves and 1.5 million fasteners.

By mid-2011, completed hull blocks will begin to arrive in Adelaide for consolidation into the complete warship at the Government of South Australia's Common User Facility.

Successful completion of pilot fabrication work and production readiness reviews has finalised the transition of the project from detailed design into full production of the ships.

The project is on track to deliver the first AWD, HMAS HOBART, in December 2014. HMAS BRISBANE is scheduled for delivery in the first quarter of 2016 and HMAS SYDNEY in mid 2017.

SELECTION OF EW SYSTEM FOR AWD

The Air Warfare Destroyer Alliance has selected ITT–EDO Reconnaissance and Surveillance Systems, Inc as the preferred supplier for the electronic warfare system for the Hobart class Air Warfare Destroyers (AWDs).

The selection involves Australian companies and incorporates 'home-grown' technology.

The EW (Electronic Warfare) suite covers the detection and classification of radar transmissions and the interception of communications signals. This system will allow the AWD to achieve increased awareness of land, air and seaborne threats, giving the AWDs advanced warning of impending attacks.

The ITT solution is based upon equipment used by several navies from around the world. The equipment includes the ITT ES-3701-02S system for the detection and identification of radars, and the Southwest Research Institute MBS-567A system for intercepting communication signals.

ITT is teaming with Jenkins Engineering Defence Systems, Sydney, and Ultra Electronics Avalon Systems, Adelaide to deliver its solution. Avalon Systems will be upgrading its multi-purpose digital receiver and integrating it with the ITT system. Jenkins Engineering will supply its low band receiver, integrate and conduct land-based testing of the complete system in Australia.

Jenkins Engineering will also install and test the equipment in the AWDs. This work will build upon their experience with the ITT equipment fitted to the Collins class submarines, extending their capability to support latest generation electronic warfare systems.

The value of the contract is worth around \$30 million.

SWEDISH A 26 SUB CONTRACT IN PLACE

On 26 February 2010, the Swedish Defence Materiel Administration (FMV) signed a contract with Kockums AB (part of ThyssenKrupp Marine Systems) concerning the overall design phase for the next generation submarine (A 26) for the Royal Swedish Navy (RSN).

These actions confirm Sweden intends to stay in the submarine business, which has been in question for the better part of a decade. A new class of at least four submarines will replace the remaining Gotland (A19) and Sodermanland (A17) classes that were commissioned in the late 1980s through the mid-1990s. Although the programme has been delayed by several years, a construction contract could be in place as early as 2013 in order to have the first unit in service by 2018 to replace the SODERMANLAND. The submarines will be built at Kockum's Malmo Shipyard.

The new submarines are being designed for littoral operations but will also possess ocean-going capabilities and will have the Kockums Stirling Air Independent Propulsion (AIP) system for increased on station time. This programme could also be linked to Norway's Future Submarine programme, if the Royal Norwegian Navy (RNoN) decides to replace the six units of its Ula class. Norway began conceptual studies for a replacement of the Ulas under the Ny Ubat Project 6346 programme. However, a final decision on whether to stay in the submarine business has yet to be made. If Norway decides to continue operating submarines, it would be very expensive to go it alone and could benefit by joining with Sweden similar to the Viking Programme of the 1990s prior to cancellation. Norway has no submarine building capability and it would be economically beneficial to join a programme in progress in order to reduce overall costs

02 CANADIAN CYCLONE FLIES IN

The Canadian Forces (CF) new shipborne helicopter has arrived for testing at Nova Scotia's '12 Wing' facility at Shearwater. The new Sikorsky CH148 Cyclone is the contractor's test helicopter for the commencement of the Ship/Helicopter Operational Limitations (SHOL) trials; a milestone in the Maritime Helicopter Project (MHP).

The fleet of 28 Cyclones will replace the CH-124 Sea Kings that were first put to work by the CF in 1963. Delivery of the first interim helicopter is scheduled for this November.

Faster than the Sea King and equipped with a sophisticated surveillance suite, the Cyclone can

monitor most of the Eastern Seaboard in one trip, and provide the CF with an enhanced capability to detect submarines and observe marine traffic. Its ability to fly in known icing conditions makes it an important player in sovereignty operations in the Arctic, and its pilots can fly wearing night vision goggles, providing an improved search and rescue capability. Additionally, the helicopter's fly-by-wire capability, a computerized flight control system, puts it at the forefront of modern technology.

"It carries more and does more than the Sea King, but it still fits in the same hangar on the ships," says Col Michaud, 12 Wing's commanding officer. That has made modifying the Halifax-class ships that will carry the Cyclone much simpler.

At the moment, HMCS MONTRÉAL, currently alongside in Halifax, is the only ship that has been modified to support the CH148. Many of the modifications are not immediately visible, although the green filters on the flight deck landing lights, friendlier to pilots wearing night vision goggles, were the envy of many during the 2009 holiday festive lighting competition.

The Canadian Recovery Assist Securing and Traversing system (C-RAST), more commonly called a bear trap, has been adjusted to secure the Cyclone to the flight deck and move it in and out of the ship's hangar. The flight deck has also been reinforced because the Cyclone is heavier than the Sea King.

"We're proud to be the first home of the Cyclone," says Lieutenant-Commander James Allen, MONTRÉAL's executive officer. "It'll be in the hangar [at 12 Wing] first, but it's a maritime helicopter. It belongs on a ship."

Now that the prototype is on-site, it will be put through its paces in the SHOL trials . "We're going to do the operational testing, kick the tires, figure out what we can do and what risk level is associated with that," says Major Wayne Joy, the MHP staff officer.

The testing will be progressive, starting simply

D2 The new Sikorsky CH148 Cyclone arriving for testing at Canada's '12 Wing' facility. A fleet of 28 Cyclones will replace the CH-124 Sea Kings that were first put to work by Canada in 1963. On the surface the Cyclone would have made a good contender for the RAN's AIR 9000 Ph 8 contest given it has the best qualities of the two aircraft currently competing for that contract.



and growing more complex as the evaluators push the operational envelope. First, the helicopter will sit on the jetty beside HMCS MONTRÉAL with all systems running to make sure none of the helicopter's systems interfere with the ship's, and vice versa. Then after some testing to verify its performance on Canada's east coast, in a climate that's relatively colder than that of its Florida birthplace, the helicopter will be embarked on MONTRÉAL.

"When we take it out to sea, first we'll probably anchor somewhere with a low sea state and we'll just try taking off, hovering and landing," explains LCdr Allen. "Eventually, we'll see how it works at night-time in poor weather. By the time we're done testing, we want to be able to say that the helicopter can operate at this degree of pitch and roll. That will provide us with a baseline of knowledge so that we can determine proper wind and safety conditions."

Having the prototype on base and on board is an emotional event for everyone who has been involved in the project. "People are excited about the Cyclone and, though this is not delivery, it is still the first CH148 to land in Shearwater or in Canada for that matter," said Major William O'Gorman, MHP flight test engineer and combined test force lead. "It's a rare opportunity to be the first operators to test an aircraft and one we've been looking forward to."

"It's real, it's here, it's something the community gets to see, touch and smell, but we also have to appreciate what this is," says Maj Joy. "This is the test aircraft for ship/helo operating limitations testing. It's a real sign of progress but it's not our aircraft and there's a lot that has to happen between now and then."

03 VIKRAMADITYA TO COST US\$2.3B

After a three-year renegotiation, the new price of the modernised Russian aircraft carrier ADMIRAL GORSHKOV has been finalised at US\$ 2.35 billion by the Indian Government during the Russian Prime Minister Vladimir Putin's two-day visit to India in late March.

India and Russia signed the new contract for the aircraft carrier, bought by the Indian Navy in 2004 and rechristened INS VIKRAMADITYA, during Putin's stay in the capital.

The warship, purchased originally at a price of US\$974 million, is currently undergoing a refit at the Russian Sevmash shipyard.

Since 2007, the shipyard sought a change in the price for the warship's refit programme and had revised the cost of the project twice to US\$2.9 billion.

BLOCK 3 EXOCET FIRED

The French Navy Forbin-class (Horizon) destroyer CHEVALIER PAUL has completed the first inservice firing of the MBDA MM-40 Block 3 Exocet anti-ship missile.

Fired at a French naval range off southern France on 18 March, the test marked the first Exocet Block 3 ship borne firing. Two earlier firings at the range, in September 2006 and April 2007, were performed from land.

As the latest evolution of the Exocet seaskimming anti-ship missile line, MM-40 Block 3 embodies significant performance and technology improvements including air-breathing propulsion, a GPS-based navigation and guidance package and a new launch and mission planning infrastructure. The GPS and guidance package allow Block 3 an expanded capability to strike at land targets, much like the US Harpoon Block II.

Block 3 is different from previous generations of

Exocet through the adoption of a Microturbo TRI-40 turbojet (replacing the solid-rocket sustainer) to increase effective range out to 180 km. A new launch-booster rocket motor is also introduced.

The Block 2's 160 kg high-explosive warhead and Super ADAC J-band active radar seeker are retained, but a new weapon computer and internal 1553-bus architecture are introduced. The Block 3 navigation package incorporates a new laser gyro inertial measurement unit and GPS/ Galileo, enabling the missile to fly complex threedimensional approach trajectories incorporating over 10 waypoints. Time-of-flight management allows for salvo compression on the target.

KUZNETSOV TO LOSE ANTI-SHIP MISSILES

Russian state news agency RIA Novosti has announced that the Russian Federation Navy's 58,500-ton aircraft carrier, ADMIRAL KUZNETSOV, is expected to be out of action for five years when it enters a refit and modernisation period in 2012 at the Sevmash shipyard in Severodvinsk. She is expected to be relaunched in 2017.

According to state news agency, an extensive overhaul will be performed on the ship's propulsion system, its SS-N-19 'Shipwreck' surface-to-surface missiles will be removed and the hangar area will be extended to 4,500-5,000 sq m to allow the storage of additional aircraft.

The SA-N-9 'Gauntlet' air defence missiles will be replaced with a medium-range multi-role system deploying 80-120 missiles. Between four and six SA-22 'Greyhound' short to medium-range surface-to-air missile systems will be installed together with anti-aircraft guns, RIA Novosti said.

The five-year refit is also likely to include the replacement of electronic, sensor and communications systems as well as structural alterations to the internal layout of the ship and the angle of the flight deck.

ADMIRAL KUZNETSOV's existing complement of



04 The first ever vertical landing of the short take off vertical landing (STOVL) variant of the Lockheed Martin F-35 Lightning II (JSF) at US Naval Air Station Patuxent River, Maryland. (Lockheed Martin)



FLASH TRAFFIC

aircraft includes 18 Su-33 Flanker D multirole fighters, four Su-25 UTG Frogfoot close air support aircraft, 15 Ka-27 Helix anti-submarine warfare helicopters and two Ka-31 RLD Helix airborne early warning helicopters.

D4 JSF COMPLETES FIRST VERTICAL LANDING

BAE Systems' test pilot Graham "GT" Tomlinson has taken to the skies and successfully completed the first ever vertical landing of the short take off vertical landing (STOVL) variant of the Lockheed Martin F-35 Lightning II (also known as the Joint Strike Fighter) at Naval Air Station Patuxent River, Maryland.

The STOVL variant of the F-35 has been developed for the US Marine Corps and the UK Royal Air Force and Royal Navy. The first STOVL aircraft has been at Patuxent River since November 15, 2009, completing a series of test flight activities on ground and in air, including static testing and in air conversion flight tests leading up to the first vertical landing.

NERPA INBOUND

Russia has confirmed its readiness to transfer the Akula II class SSN NERPA for a 10 year-lease to India.

With the final lease and training agreements now in place, India has dispatched a 50-member submarine crew, including 8-10 officers, to Russia to train on the Akula-II class nuclear submarine.

Akula II class vessels are considered the quietest and deadliest of all Russian nuclear-powered attack submarines.

The lease follows an agreement inked between New Delhi and Moscow in January 2004, with India funding part of the NERPA's construction at the Komsomolsk-on-Amur shipyard in the Russian Far East with an initial US\$650 million. The NERPA was scheduled to be inducted in the Indian Navy as INS CHAKRA by mid-2008 but technical problems delayed the process. After that, just as it began its sea trials in November 2008, 20 sailors and technical workers were killed on it due to a toxic gas leak when the automatic fire extinguishing system malfunctioned. After repairs, the NERPA is now fully operational.

05 'GO-HEAD' FOR TWO MORE ASTUTE SSNS

BAE Systems has welcomed news it had been given the go-ahead to begin constructing the fifth Astute class submarine and start the procurement process for a sixth vessel.

It follows a statement made earlier in March by then UK Secretary of State for Defence, Bob Ainsworth, in which he underlined the UK Government's continuing support for the Astute programme.

The first of class Astute attack submarine is currently undertaking sea trials, the second (AMBUSH) is due to be launched later this year, and the third and fourth (ARTFUL and AUDACIOUS) are both advanced in their construction. The Secretary of State said: "The Government has made a contractual commitment to proceed with the initial build of Astute Boat 5 and long lead procurement activities associated with Astute Boat 6, at a total cost of over £300M. This commitment is necessary now to ensure a consistent workload for the UK's submarine building industry.

"This investment will allow the timely delivery of the Astute class boats, which are the most advanced attack submarines ever ordered for the RN. Furthermore, since the same industrial skills, experience and capability are necessary to deliver the successor deterrent submarine programme; this investment will play a part in ensuring a smooth transition from the Astute programme to the successor deterrent."

The Astute class will replace the Swiftsure and

Trafalgar class, which have been in-service since the 1970s and 1980s respectively.

Work is expected to start immediately at the shipyard in Barrow-in-Furness.

The first of class Astute submarine successfully completed its first phase of sea trials having left Barrow for its operational base in Faslane in November 2009. The programme of sea trials continues, including a successful first at-sea dive off the coast of Scotland.

Test and commissioning of second in class AMBUSH continues ahead of its scheduled launch later this year. The command deck module – the largest of the boat's modules - has been shipped into third in class ARTFUL, successfully completing one of the boat's 2010 milestones. Construction of major steelwork for fourth in class AUDACIOUS continues after its keel was laid in 2009.

QUEEN ELIZABETH'S BOW DELIVERED

There were celebrations during March in Devon as the programme to build Britain's two largest and most powerful warships passed an important milestone.

The bow sections of one of the UK's two new aircraft carriers, HMS QUEEN ELIZABETH, are complete and have been sailed from Babcock's Appledore shipyard in Devon. They made a six day journey by barge to Rosyth in Scotland, where the ships are being assembled.

Shipyards throughout the UK are contributing their skills to the project – Glasgow, Rosyth, Newcastle, Portsmouth, Devon and Birkenhead – as well as a further 100 contracts throughout the supply chain.

Then Minister for Defence Equipment and Support, Quentin Davies, said: "The progress we are making with the Queen Elizabeth class carriers is not only good news for the RN – it is good news for defence and the UK defence industry. This national project will sustain thousands of jobs in shipyards and in the wider supply chain. The carriers will be

US Two of the RN's newest and most potent. The Astute class SSN ASTUTE (front) in company with the second Type 45 destroyer DAUNTLESS. The UK Government has given the go ahead for Astute boats 5 (AGAMEMNON) and 6 (ANSON). (BAE)



a cornerstone of future defence policy and a key asset for our Armed Forces as a whole, providing four acres of sovereign territory which can be deployed to support operations anywhere in the world."

The two sections make up the bow of the ship, and together weigh about 400 tonnes. The larger of the two sections - called the bulbous bow - is similar in size and shape to a conventional submarine, yet only a tenth of the full length of the ship. It is designed to increase speed, fuel efficiency and stability - sitting just below the waterline to help the ship to cut cleanly through the water, reducing drag. The second section sits above, making up decks seven to five below the aircraft hangar.

Babcock's role in the Carrier build programme is worth around £1 BN, currently employing 292 at the Appledore shipyard and another 432 at Rosyth, including around 140 apprentices.

Significant progress has been made since manufacture began at Appledore shipyard in December 2008, and with major sections of the bow completed the QUEEN ELIZABETH is visibly taking shape. Work now continues on the forward section of the ship, from the keel up to the flight deck.

D6 LAST FLIGHT OF THE NIMROD MR2

Following over 30 years of service, the last flight of the RAF's Nimrod MR2 fleet took place on Thursday 31 March 2010.

The Nimrod MR2 marked its last operational flight with a flypast of airfields in the north of Scotland before the fleet was retired.

Over its last few days, MR2s visited some of the air bases that have helped form its history, such as the former RAF St Mawgan (now Newquay International Airport) and in Guernsey, to mark 201's Squadron's affiliation with the Island.

An ISTAR (Intelligence, Surveillance, Target Acquisition and Reconnaissance) asset, the

06

Nimrod MR2 force has been tasked to perform a wide variety of roles in support of the UK's defence. They have had the capability to conduct surveillance over land and sea, anti-submarine

attack and search and rescue. On Friday 26 March 2010, VIPs, RAF personnel, their families and a number of veterans attended an event at RAF Kinloss to mark the last days of the aircraft.

Attendees had the opportunity to look round a Nimrod aircraft and tour some exhibitions covering the operational role of the MR2 over its last 31 years.

The highlight of the event was the formation flypast of two Nimrods.

RAF Kinloss is part of No 2 Group, Air Command, RAF. The Station has been the permanent main operating base for the RAF Nimrod MR2 Force of 11 aircraft operated by crews from Nos 120 and 201 Squadrons.

The MR2 is due to be replaced by nine MRA4 aircraft which, due to delays in their production, won't occur until mid 2012.

Yorkshire Air Museum near Elvington is the first museum to buy a Nimrod for its collection and has already taken delivery, there are plans to put Nimrods in other museums.

To fill the gap in ASW, surveillance and SAR duties the RAF and RN will be using other assets such as the C-130 Hercules and their EH-101 Merlin helicopters.

USS WISCONSIN RELIEVED OF DUTY

The city of Norfolk, Virginia, officially took over stewardship of the decommissioned lowa-class battleship, USS WISCONSIN (BB-64), during a ceremony at 'The National Maritime Center -Nauticus' on April 16.

The ceremony took place 65 years after the ship was first commissioned into naval service

April 16, 1944.

"As we incrementally open up this Navy icon for public viewing, it will be our awesome responsibility to bring this grand ship's history to life," said Hank Lynch, Executive Director of Nauticus.

WISCONSIN has been berthed at Nauticus, a maritime-themed science centre, since Dec. 7, 2000, but still maintained by the USN until this ceremony. As part of the US National Defense Authorization Act of 2006, battleships must be maintained in case it must be recommissioned for USN usage. Transfer of the ship to Norfolk ends that requirement for the WISCONSIN. The USN had paid approximately US\$2.8 million to the city of Norfolk to maintain the ship between 2000-2009.

Audio tours lead guests through decks of the ship to demonstrate the workings of one of the US Navy's last and largest battleships.

"Our responsibility is to preserve and protect your ship; to insure that your legacy of duty, honour and country endures and inspires future generations of Americans," said Paul D. Fraim, Mayor of Norfolk.

Several former crew members were in attendance for the ceremony, along with distinguished guests and active duty sailors.

WISCONSIN served in Adm. William F. Halsey's 3rd Fleet during the liberation of the Philippines, supported the amphibious landings on Iwo Jima and Okinawa and transported Gls back to the United States during Operation Magic Carpet at the end of World War II.

DUTCH TAKE DELIVERY OF NH90 NFH

AgustaWestland, a Finmeccanica company has delivered the first NH90 NFH helicopter to the Royal Netherlands Navy during an official ceremony held during April at AgustaWestland's Vergiate plant in Italy. The Royal Netherlands Navy has ordered a total of 20 NH90 NFH aircraft.

The last flight of the RAF's Nimrod MR2 XV250 arriving at the Yorkshire Air Museum near Elvington.

FLASH TRAFFIC

The Dutch, French, Italian, Norwegian and Belgian navies have ordered a total of 111 NH90 NFH naval helicopters. The NH90 NFH variant is primarily designed for autonomous Anti-Submarine Warfare (ASW) and Anti Surface Warfare (ASuW) missions. The comprehensive mission equipment packages allow a wide range of additional missions to be performed including Search and Rescue (SAR), maritime patrol, vertical replenishment, troop transport, medical evacuation and amphibious support roles. The helicopter is designed for day and night operations in adverse weather conditions from the decks of ships. Due to its weight and dimensions, the deck-lock system, the deck traversing system and the automatic blade and tail folding system, it can operate from small frigates even in high sea states.

The NH90 is the most successful European helicopter programme ever. A total of 529 firm orders have been placed by 19 armed forces in 14 countries including The Netherlands, France, Germany, Italy, Portugal, Sweden, Finland, Norway, Greece, Spain and Belgium in Europe, as well as Australia, New Zealand and Oman overseas and 44 NH90 helicopters are already in service today.

17 FIRST TORPEDO LAUNCH FROM New C295 MPA

Airbus Military has successfully conducted the first torpedo launch from one of its new C295 Maritime Patrol Aircraft (MPA) variants. The launch represents an important milestone in the development of the anti-submarine warfare (ASW) version of the C295 MPA. It is also a significant entry for Airbus Military into the market of ASW aircraft, currently dominated by veteran aircraft such as the P-3 Orion and Atlantique.

The C295 MPA/ASW includes two under-wing pylons for the installation of torpedoes and other external loads. It also incorporates a Store Management System (SMS), integrated with the Airbus Military Fully Integrated Tactical System

(FITS), to control the deployment of sonobuoys for submarine detection and torpedoes.

The C295 MPA has a flight endurance of over 11 hours, and it is used for a wide variety of missions: Search and Rescue (SAR), control of the Exclusive Economic Zone (EEZ), law enforcement, marine pollution detection, as well as defence missions.

The Chilean Navy has already received the first of three C295 MPA that they ordered from Airbus Military in October 2007. The contract also includes five additional options.

TYPHOONS UNTIL 2019

Russia's Typhoon class strategic nuclearpowered submarines will remain in service with the Navy until 2019, the Navy commander said during May.

The world's largest nuclear powered ballistic missile submarines (SSBN) entered service with the Soviet Navy in the 1980s. Three of the six vessels built are still in use.

"They [the Typhoon class subs] will remain in operation until 2019. They have good modernisation potential," Adm. Vladimir Vysotsky said.

The DMITRY DONSKOY submarine has been modernised as a test platform for Russia's new Bulava submarine-launched ballistic missile.

Two reserve vessels, the ARKHANGELSK and the SEVERSTAL, are awaiting overhaul at a naval base in Severodvinsk in northern Russia. They will most likely be modernised to carry new-generation sea-based cruise missiles to match the US Ohio-class submarines.

The Typhoon class subs have a maximum displacement of 33,800 tons and were built to carry 20 SS-N-20 Sturgeon solid-propellant ballistic missiles, all of which have been retired.

The Typhoons will be replaced in the future with the new Borey class strategic nuclear-powered

submarines, which will be equipped with Bulava missiles.

ESSM BLOCK II STARTED

The US-led NATO SeaSparrow Consortium is advancing plans for a block upgrade of the RIM-162 Evolved SeaSparrow Missile (ESSM) designed to maintain the weapon's capability against antiship cruise missile (ASCM) threats beyond 2020.

Studies conducted on behalf of the consortium have examined the case for improvements to both the ESSM seeker and propulsion stack to address emerging ASCM threats. The Block 2 roadmap now being taken forward by the NATO SeaSparrow Project Office (NSPO) adopts a spiral evolution plan that will initially focus on the introduction of a dualmode active/semi-active radar seeker, while at the same time leaving design margins for the adoption of a dual-pulse rocket motor (increasing airframe length from 383 cm to approximately 457 cm).

To accommodate the new seeker, the current 8-inch diameter forward body section will be enlarged to match the 10-inch diameter aft section, providing the additional space for a larger antenna aperture and dual-mode guidance hardware. An upgrade to the missile datalink will also be implemented to reflect the increased seeker functionality.

The NSPO is continuing to examine enhanced kinematics requirements, reflecting a desire from a number of partners for improved maximum reach and crossing target performance to confer a true local area air-defence capability.

BRAZILIAN SCORPENES ON WAY

Steel cutting for Brazil's first Scorpene class submarine started during a ceremony at the Cherbourg facility of French shipbuilder, DCNS, on 27 May.

Four conventionally powered Scorpene-class

07 The first torpedo launch from the new C295 Maritime Patrol Aircraft (MPA). The launch represents an important milestone in the development of the anti-submarine warfare (ASW) version of the C295 MPA.



diesel-electric attack submarines (SSKs) and a single nuclear-powered attack submarine (SSN) are to be built for the Brazilian Navy under its EUR6.7 billion (US\$9.5 billion) submarine development programme (SBr).

The Scorpene-class SSKs will displace between 1,790 and 2,010 tons and will be 75 m long - about nine metres longer than the Chilean and Malaysian variants - with a diameter of 6.2 m.

The hull stretch was required to comply with Brazilian requirement for 80-day endurance and number of bunks for the crew [31], with the necessary increase of space for fuel oil, drinking water, food and spares.

The boats can achieve a maximum diving depth of 350 m and reach a top speed of 20kt. Armament is likely to include 18 WASS Blackshark heavyweight torpedoes fired through six launch tubes and the MBDA SM-39 Exocet anti-ship missile. DCNS will provides is SUBTICS (Submarine Tactical Integrated Combat System) and Thales Underwater Systems will provide the S-Cube sonar suite.

The remaining three boats will be built entirely in Brazil.

According to DCNS, Boat 1 will be delivered to the Brazilian Navy in 2017 with the remaining three expected to be delivered in 2018, 2020 and 2021.

DB FFGS FOR PAKISTAN

The former USS McINERNEY (FFG-8) will be turned over to the Pakistani Navy (PN) on 31 August. It will be renamed PNS ALAMGIR. The McINERNEY was donated to the PN on 16 April 2010 as an 'Excess Defence Article' (EDA). It will be modernised under a US\$78M refurbishment package (managed by VSE Corporation) that will be financed through a Foreign Military Sale (FMS) programme. The PNS ALAMGIR will complete its modernisation effort and sail for Pakistan in January 2011.

The PN is hoping to acquire up to seven additional

Oliver Hazard Perry class frigates (FFG-7) as they become available. This could happen sooner rather than later as the US Chief of Naval Operations (CNO), Admiral Roughead, indicated in early May a desire to begin retiring the remaining 30 units still on active duty rather than begin another modernisation effort and extend their service lives.

The USN's FFGs have had their Mk-13 launchers removed for sometime and thus no longer retain the capability to launch SM-1 anti-aircraft missiles or Harpoon anti-ship missiles. They have received upgrades to act as enhanced escorts for carrier battles groups through the fitting of Nulka missile decoys and the new Phalanx Block 1B close in weapon system. Some of the class have platforms mounted over the Mk-13 position for a 25mm gun.

SM-3 SYSTEM IS FULLY CAPABLE

Riki Ellison, Founder and Chairman of the Missile Defense Advocacy Alliance (MDAA), (www. missiledefenseadvocacy.org) has commented on the current status of the SM3- system and states that the system is fully capable. Ellison is one of the top foremost lay experts in the field of missile defence in the world. His comments include the following:

"The SM-3 Block 1A is certified by the Department of Defense to engage short-range missiles of the SCUD A & B, the No-Dong type missile and their separating targets (warheads); absent the presence of countermeasures. These requirements for the SM-3 Block 1A missiles are over 10 years old. Today and in the near future, Iran and North Korea have yet to deploy or demonstrate countermeasures or mount a nuclear warhead on a ballistic missile. The SM-3 Block 1A is a capable missile with 17 intercepts; including a toxic falling satellite from space. Our combat commanders, Admiral Robert Willard and General David Petraeus, have confidence in the SM-3 capability to engage and destroy current

ballistic missile threats from North Korea and Iran as SM-3s are deployed today on Aegis Ships in the Persian Gulf and the Sea of Japan protecting our armed forces and allies."

"President Obama's missile defense plan calls for the phasing out of the SM-3 Block 1A missiles to start in 2015. This is also when the deployment of the next generation of the SM-3 Block 1B missiles will take place. The new generation SM-3 1B will have new requirements to meet the evolving missile threat and will have a proven tested capability against countermeasures."

"In 2018 the third generation of the SM-3 with its new requirements will begin to be deployed. The fourth generation of SM-3 missiles will be deployed in 2020 and will have greater requirements of any generation of SM-3 and will be cable of destroying an ICBM."

"There is no question that more testing which involves separating warheads at greater speeds is required to continue to prove the confidence of the system. MDAA encourages and supports a minimum of three SM-3 tests a year to give the necessary confidence to meet the President's Phased Adaptive Approach (PAA). It is disappointing that this year the Missile Defense Agency and Department of Defense does not have a single US SM-3 test scheduled."

"It should also be noted that the United States has ceased its testing of nuclear weapons; therefore testing any missile defence system against a true nuclear weapon will never be done."

"The SM-3 missile performs as it is required and certified to do by the Department of Defense to defeat with confidence today's ballistic missile threats and the SM-3 will evolve through President Obama's PAA into a better system to defeat tomorrow's missile threats."

D8 The USN FFG USS McINERNEY (FFG-8) seen here with a Fire Scout UAV on the aft pad. McINERNEY will be turned over to the Pakistani Navy (PN) on 31 August. The PN is hoping to acquire up to seven additional Oliver Hazard Perry class frigates (FFG-7) as they become available. (USN)



09 RUSSIA CONSIDERS BUYING BACK MISSILE CRUISER UKRAYINA

The Russian and Ukrainian presidents have agreed that Russia will help Ukraine complete the building of the Slava class guided missile cruiser UKRAYINA, which has been docked unfinished at the Nikolayev (Mykolaiv) shipyard in Ukraine.

The question is, what fate does the future hold for this cruiser, the last commissioned unit of a class of warships known as Project 1164, and, in particular, who will the ship ultimately belong to?

This, the fourth Project 1164 class cruiser, was laid down in 1984 as ADMIRAL LOBOV. Slava class cruisers were designed as surface strike ships but with a respectable anti-aircraft and ASW capability. They carry 16 SS-N-12 Sandbox nuclear-capable supersonic anti-ship missiles, with launchers mounted in four pairs on either side of the superstructure. Russia has three Slava class cruisers in service with its Navy; MOSKVA – Black Sea Fleet; MARSHAL USTINOV – Northern Fleet, and VARYAG – Pacific Fleet.

It was to be supplied to the Russian Navy in 1990, but construction slowed down in the late 1980s after the Soviet Union cut its military spending. The vessel was eventually launched in August 1990, but was in practice only 95% complete, lacking some non-essential equipment and weapons.

Following the breakup of the Soviet Union, the cruiser was turned over to Ukraine, which had no money for completing it, but was renamed UKRAYINA. At first, the Russian Navy could not buy it, and later, the deal was prevented by political differences between the two countries.

Neither could the warship be sold to China or India because its weapons, in particular the Bazalt/ Vulkan (SS-N-12 Sandbox) missile system with a range of 1,000 km (622 miles), could not be exported as exceeding the 300-km (186-mile) international range limit on exported missiles.

When Viktor Yanukovych won the presidential election in Ukraine last year, and a change in the political climate ensued, the two countries resumed talks on the completion of the cruiser for the Russian Navy. However, the problem is it cannot be completed according to the initial design

because the equipment created in the 1970s and 1980s is no longer produced.

In fact, the idea is to undertake an extensive overhaul to modernise the ship and arm it with modern weapons systems. In any event, the equipment mounted on the cruiser needs to be repaired or replaced after its long stay in the dock.

Most importantly, considering Russia's serious need for large modern warships, it could actually buy the cruiser UKRAYINA (and possibly rename it again). A modernised cruiser armed with a modern combat command and control system, a multipurpose shipboard fire-control system and sonar equipment would be among the world's most powerful and effective warships.

If the modernisation of the cruiser UKRAYINA proves a success, it could potentially also be used on the other Project 1164/Slava class ships - MOSKVA, MARSHAL USTINOV and VARYAG.

The cruiser UKRAYINA has a firepower second only to the Project 1144/Kirov class heavy missile cruisers, such as PYOTR VELIKY, currently the only ship of this class on combat duty with the Russian Navy.

MAGAZINE FOR AGS DELIVERED

BAE Systems, along with partner General Dynamics Armament and Technical Products, has delivered to the USN the first automated magazine for the 155-mm Advanced Gun System (AGS) being developed for the DDG 1000 (Zumwalt) Destroyer Programme.

The magazine is the first major production component to be delivered under the AGS programme. It is one of a total of four magazines that will be built under a Navy contract to produce four AGS weapon systems for the USN's first two Zumwalt class destroyers.

AGS is a long-range precision gun system designed to meet USN surface fire support requirements. The 155-mm AGS magazine gives the AGS a fully automated ammunition handling system that eliminates the need for Sailors to handle the ammunition - a first for USN large calibre gun systems. The magazine acts like an automated logistics centre below deck

O9 The Slava class guided missile cruiser UKRAYINA docked and unfinished at the Nikolayev (Mykolaiv) shipyard in Southern Ukraine. She has sat there idle for 20 years.



by organising and processing up to 38 pallets that each weigh 6,000-pounds and hold eight 230-pound, precision-guided Long-Range Land Attack Projectiles (LRLAP) and eight propelling charges. These LRLAPs can be fed into the AGS at rates of up to 10 rounds per minute to provide unmatched, sustained long-range precision fire support to USN and USMC expeditionary forces.

"The successful factory testing and delivery of this first major production component for AGS, coupled with our ongoing successes with the 155-mm LRLAP programme, demonstrates that this highly advanced system is a real, proven option for meeting unmet naval surface fire support requirements," said Jim Schoppenhorst, vice president and general manager of Armament Systems for BAE Systems. "The delivery of this magazine is another example of BAE Systems' commitment to providing our Navy customers with the fire support capability that best meets the needs of our Sailors and Marines."

This first 155-mm AGS magazine completed Factory Acceptance Tests in Cordova, Alabama, in March, demonstrating that all operations of the magazine functioned as designed. It was shipped from Cordova last month and arrived in Bath, Maine, May 10. It will be installed on the USS ZUMWALT - the lead DDG 1000 ship - and later integrated with the first production AGS gun mount, which is currently undergoing testing in Minneapolis, Minnesota.

The largest fully automated magazine in the world, each AGS magazine is approximately 45 feet long, 30 feet wide, two stories tall and weighs 160 metric tons.

The advanced automation and massive capacity from these magazines give DDG 1000, with two AGSs each, the ability to fire LRLAP at ranges of more than 60 nautical miles. This represents the longest guided flight range for any large calibre gun system in the world.

USN TO BUY MORE SUPER HORNET

The USN has agreed to buy an extra 124 F/A-18E/ Fs and EA-18Gs over the next four years for an undisclosed sum.

The USN will pursue a package deal called a 'multi-year procurement'. The arrangement locks the USN into a long-term contract, while the manufacturer will provide a discounted price in exchange for the commitment.

The package includes 66 F/A-18E/Fs and 58 EA-18Gs, raising the total fleet to 515 F/A-18E/Fs and 114 EA-18Gs after the last deliveries occur in late 2015.

While the cost for the four-year contract has not been disclosed, Boeing released a statement saying the package deal will cost 10% less buying the aircraft in annual lots.

The deal means that Boeing will continue producing the F/A-18E/F and EA-18G through at least calendar year 2015.

Extending the production line even further will depend partly on ongoing efforts to sell the aircraft abroad.

NAVY LEAGUE 2009 ESSAY COMPETITION

Professional category



HMAS HOBART AT BERBERA A Minor Episode During World War II

By CMDR Greg Swinden, RAN

In this his 3rd place 2009 Navy League of Australia Professional Essay Competition entry, CMDR Greg Swinden details HMAS HOBART and hers crew's heroic actions in the action at Berbera during World War II.

One historian has described the RAN's involvement in the action at Berbera as 'a minor episode during the Italian invasion of British Somaliland in August 1940'. Compared with other actions fought by the RAN during World War II it was.

This short action however, once again showed the inherent flexibility of the Navy to project power ashore and influence land operations. HOBART's tasks included convoy escort duties, employment of naval aviation on offensive land operations, use of naval personnel ashore in military roles, command and control, communications and medical support and the evacuation of military forces in the face of defeat.

In mid October 1939, shortly after the outbreak of war HMAS HOBART, commanded by Captain H.L. 'Harry' Howden, RAN, left Australia and was

soon operating in the Northern Arabian Sea on convoy escort and patrol duties. Following the surrender of France and the entry of Italy into the war on the Axis side, on 10 June 1940, HOBART was based at Aden for duties in the Red Sea and off the Horn of Africa in the vicinity of Eritrea and Italian Somaliland. The threat of attack from the Italians increased throughout July and eventually on 3 August 1940 Italian forces invaded British Somaliland, from Ethiopia, with a force consisting of 17 infantry battalions with artillery, armour and air support. The Commonwealth forces (mainly British and African colonial troops) were significantly outnumbered and were soon in full retreat. Only at sea did the Allies possess numerical strength greater then the Italians.





HOBART ARRIVES AT BERBERA (1 AUGUST 1940)

The only port available to the British forces was Berbera, the capital of British Somaliland, on the Gulf of Aden and it was here the convoys bringing re-enforcements were sent in the period leading up to hostilities. Berbera was a port very much in name only and possessed two very rudimentary wharves and limited support infrastructure. HOBART was amongst several Allied ships which began escorting troop convoys to Berbera in early August and air raids by Italian aircraft were frequent during this period. The sloop HMAS PARRAMATTA was also briefly deployed as a convoy escort to Berbera in early August but then returned to operations in the Red Sea.

Following the Italian invasion, in the first week of August, HOBART's boats supported the movement of British soldiers from the troopships to shore over Berbera's two wharves. Very early on the morning of 8 August three Italian fighters raided Berbera. In retaliation Captain Howden sent HOBART's Walrus seaplane, at 0530, to attack the Italian airbase at Zeila; hoping to catch the aircraft on the ground re-fueling. The aircraft attacked the air base at 0700 dropping two bombs which caused some damage to buildings and then strafed the base damaging enemy vehicles and silencing two machine gun posts. The aircraft returned to the ship with two bullet holes in it; HOBART's first battle scars. Later the pilot (Flight Lieutenant Thomas Davies, RAAF) and the observer (Lieutenant Claud Malleson, RN) were awarded a Mention in Dispatches for this and other duties but the Telegraphist Air Gunner David Moodie strangely received no recognition.

Enemy air attacks against Berbera and the shipping in the harbour became a regular event and HOBART's guns were frequently in action. Several bombs fell close to the ship and at least one enemy fighter was damaged by the cruisers 4-inch gun fire. HOBART's shipwrights, under the command of Commissioned Shipwright Ernest Gooch, RAN were also employed in repairing a pontoon, later known as the Spit Floating Pier, for use as an additional embarkation pier to supplement the two existing wharves and improve the speed of unloading troops and supplies.

By 9 August the situation in British Somaliland was desperate as Italian forces advanced towards Berbera. That evening the British Army asked if HOBART could provide a suitable gun for use as an anti-tank weapon. Howden accepted the challenge and soon the ships three pounder Hotchkiss saluting gun was fitted with an improvised mounting made from a 40 gallon oil drum reinforced with steel plating welded to it. 64 rounds of ammunition (32 each of steel shell and High Explosive) were also provided along with three volunteers to operate the gun.

THE DEFENCE OF THE BRITISH SOMALILAND (10 – 19 AUGUST 1940)

The three men selected to operate the temporary anti tank gun were Petty Officer Hugh Jones, Able Seaman Hugh Sweeney and Able Seaman William Hurren. They were issued with army uniforms and reported for duty at the front line near the Tug Argan Gap, to the south of Berbera, on the morning of 10 August 1940 $\,$

The forces defending the Tug Argan Gap were over run on the 15th and the three men were posted as Missing – Believed Killed in Action. The Italian forces later advised the Red Cross that all three men were Prisoners of War. They were liberated from an Italian POW camp at Massawa when British forces advanced into Eritrea in late April 1941. Jones, Hurren and Sweeney were all Mentioned in Dispatches for *Good service with the Somaliland Force in HMAS HOBART during the evacuation of Berbera in August 1940.* General Archibald Wavell, Commander in Chief – Middle East is reputed to have stated *"their presence and conduct were of the utmost value to the morale of the garrison".*

HOBART left Berbera on the evening of 10 August and returned to Aden to restore, particularly with ammunition, and did not return to Berbera until late on the 14th. In the intervening time the military situation ashore had deteriorated to the point that on the morning of 15 August 1940, General Wavell ordered the complete evacuation of British Somaliland. Onboard HOBART, Captain Howden became Senior Naval Officer – Berbera and set up his day cabin and dining cabin as a Combined Operation Room for the British forces. Navy, Army and Air Force staff were employed here and the ships wireless and signal system used to communicate with Army and Air Force units ashore. Lieutenant Thomas Morrison, RAN and Lieutenant Malleson were appointed as Howden's Operations Officers to manage the evacuation of all British forces and equipment.

Howden frequently went ashore during the four days of the evacuation to gain first hand knowledge of the situation. This enabled to him to make decisions concerning the use of his ships company in shore based roles such as the rescue of straggling troops, security patrols and demolition tasks. He also surveyed a number of beaches to assess their viability as evacuation points in case enemy air attack prevent the use of the harbour. Three of HOBART's signalmen were employed ashore maintaining



communications as well between the shore and ships in the harbour. Onboard the signalmen, under the command of Chief Yeoman of Signals Victor Griffiths, processed nearly 900 flashing light signals in a four day period many of which had to be repeated up to five times to other ships in company. The telegraphists were equally busy attempting to maintain communications with the main Allied base in Aden and army units ashore, which were fighting a rear-guard action as they fell back towards Berbera.

Howden also sent ashore 50 men in two security platoons (one of Seaman commanded by Lieutenant Commander Christopher Johns, RN and one of Stokers commanded by Engineer Lieutenant Leslie Williams, RAN) to maintain order in the town, provide security for Government buildings and prevent looting by the native population. Lieutenant Commander Stanley Crawford, RANR (S) was appointed as Assistant Sea Transport Officer and Lieutenant Timothy Synnot, RAN and Anthony Cooper, RAN became the Beach Masters to control the flow of civilian and military evacuees to the various naval and merchant ships waiting offshore.

As Senior Naval Officer – Berbera, Howden had the following vessels under his command: HMS CALEDON (cruiser), HMS CERES (cruiser), HMS KANDAHAR (destroyer), HMS KIMBERLEY (destroyer), HMS CHAKDINA (armed merchant cruiser), HMS CHANTALA (armed merchant cruiser), HMS LAOMEDON (armed merchant cruiser), HMS SHOREHAM (sloop), HMS AMBER (armed trawler) the hospital ships KARAPARA and VITA and a number of merchant ships. Additionally the anti aircraft cruiser, HMS CARLISLE, operated outside the harbour using her RDF equipment (Radar) to provide early warning of enemy air attack.

The bulk of the personnel to be evacuated were placed onboard the armed merchant cruisers, hospital ships and merchant ships which conducted a shuttle run between Berbera and Aden. The destroyers and sloops carried out anti-submarine patrols off the coast as there was the ever present threat of attack by Italian submarines.

THE EVACUATION BEGINS (15 AUGUST 1940)

All available ships boats, including HOBART's motor boats, pinnace and cutters, were pressed into service for the evacuation and members of HOBART's crew took over the operation of two harbour tugs, QUEEN and ZEILA, to tow boats and lighters from shore to the waiting ships. Both tugs were armed with Lewis guns due to the constant air raids. The vessels operating on the harbour also had to contend with the strong winds, known locally as the Kharif, which often reached gale force and severely



HMAS HOBART with her Walrus amphibian aircraft amidships on the catapult.

hampered visibility and boat operations. Chief Petty Officer Wallace Grigor was the master of the tug ZEILA which towed lighters to and from the shore regardless of weather or enemy action. His engineer was Petty Officer Stoker Norman Brown who worked tirelessly to keep the tugs engines running.

Onboard HOBART, Engine Room Artificer 3rd Class Samuel Chambers was put in charge of ensuring all HOBART's boat remained operational during the evacuation, and he and his assistants worked around the clock to ensure the boats and tugs did not break down. Howden later wrote of his boat crews and maintenance ratings – *"To them a great part of the success of the evacuation of British Somaliland belongs"*.

HOBART's sickbay, and the starboard shelter deck, was set up to receive wounded soldiers from ashore. The cruiser's surgeons (Lieutenant Commander Hill Wells, RN and Lieutenant Sidney Sewell, RANR) and the Dental Surgeon (Lieutenant Sydney Abraham - Wilms, RAN), who acted as an anesthetist, carried out a number of operations on badly wounded soldiers. The Sick Berth Attendants were supervised by Sick Berth Petty Officer Montan Trulsson and were supplemented by off watch Officer Stewards, and other volunteers, who assisted to make up bandages and sterilise instruments. Once treated and stablised the wounded were transferred to the Hospital Ship VITA for evacuation to Aden.

By the 16th of August Italian forces were only 40 miles from Berbera advancing from the south and west in two columns. Royal Navy vessels were sent to bombard the enemy column near the coast and this briefly slowed the advance. In Berbera the evacuation of military personnel and civilians continued. Howden had ordered the formation of demolition teams from HOBART's ships company to prepare for the destruction of stores, vehicles and equipment ashore that could not be embarked. Lieutenant James Ramsay, RAN was sent ashore with a working party of 30 men to

embark a number of heavy guns rather then leave them for the enemy.

On 17 August Lieutenant Synnot was sent ashore with a small team of signalmen and wireless telegraphist ratings to act as a Forward Observation Officer. Based in the Government House tower they kept a look out for straggling British troops. When spotted they then arranged for cars and trucks to be sent out to collect them and bring them to the wharves for embarkation. The vehicles were driven by local Somali's but under the control of Signalman Cyril Martin who in civil life had been a lorry driver. He kept the rag tag fleet of vehicles operational and also frequently drove a lorry out into unknown country to collect stragglers.

On the morning of 18 August 1940, Howden had HOBART's aircraft catapulted to carry out a reconnaissance of the surrounding countryside but nothing was spotted. The Walrus landed back at Berbera harbour and, despite heavy seas and gusting winds, was winched onboard. That evening the demolition parties commenced setting fire to the buildings, vehicles and store houses.

By the morning of 19 August the evacuation was complete with over 5,700 military personnel evacuated along with nearly 1,300 civilians. Several guns and some bren gun carriers were also evacuated but many other vehicles had to be destroyed. At 0745 HOBART commenced to bombard the town, with her 6-inch guns, in order to destroy key buildings such a government buildings, barracks and storehouses. HM Ships CALEDON and KANDAHAR also carried out bombardment duties some 40 miles to the west of Berbera against the town of Bulhar. CALEDON also conducted a search from British stragglers along the coast but without result.

During the bombardment of Berbera a small group of British soldiers straggled onto the beach near the Berbera lighthouse. Howden ordered a motor-boat, under the command of Lieutenant Synnot, to rescue the men and the boat proceeded inshore. As the boat neared the shore Synnot realised the prevailing seas

HMAS HOBART AT BERBERA . . . continued

and winds would prevent the boat getting ashore safely so he anchored off and he and Able Seaman Vivian Lewis, who were both strong swimmers, were able to swim ashore. On the beach Synnot and Lewis found three badly dehydrated men from the Kings African Rifles and, after supplying them with fresh water, swam back through the surf with them to the motor-boat. Howden later wrote that this was 'A most creditable performance'.

At 0845 on 19 August 1940, HOBART departed Berbera and steamed across the Red Sea to Aden where she arrived at 1500. The tug ZEILA was also steamed to Aden with CPO Grigor in command. The smaller tug QUEEN was inadvertently scuttled on the 18th, due to some mis-communication, as Howden had intended that she also steam to Aden.

One of HOBART's men later wrote: "The next three days showed us an army in retreat. The bridge had been blown up before our troops could retire and many had to make a wide detour. They staggered in - in twos and threes. Some had been wandering in that hell of a desert for two days without food and water. Our trucks were constantly running into the desert to search for survivors. All were utterly

exhausted and as they reached the pier were embarked to the ships. Our sick bay and waists were full of wounded on stretchers and medical staff were busy operating constantly.

On Sunday night all cars and stores on shore were fired. We watched the shore for stragglers as Berbera burned. Until we left, our fast motor boat skirted the shore for survivors and a keen watch was maintained from the ship. As we steamed out we could see the Italian forces in the hollow of distant hills waiting to move in when our guns had finished firing and as we steamed away we watched eagerly to see if there might not be one more man to be saved from the shore before it receded from our sight".

AFTERMATH

Despite the failure to defeat the advancing Italian forces, which outnumbered the Commonwealth forces significantly, the actions of the Navy in providing support to the forces ashore and organising and controlling an orderly evacuation stood out as a highlight of the short campaign. Captain Howden was made a Commander of the Order of the British Empire (CBE) *For good services in the Somaliland Force whilst in command of HMAS HOBART and as Senior Naval Officer – Berbera.*

In a style typical of Howden, and one that many modern day naval officers could learn from, he made sure those under his command were also equally rewarded for their efforts. Lieutenant Morrison was made an Officer of the Order of the British Empire (OBE) and Commissioned Shipwright Gooch was made a Member of the Order of the British Empire (MBE). British Empire Medals (BEM) were awarded to Chief Petty Officer Grigor, Chief Yeoman of Signals Griffiths, Engine Room Artificer 3rd Class Samuel Chambers and Sick Berth Petty Officer Trulsson.

Several Mention in Dispatches, including three to the anti tank gun crew, were also awarded. The recipients included Lieutenant Commander Crawford, Lieutenant Synnot, Lieutenant Malleson, Flight Lieutenant Davies, Chief Shipwright Alfred Robinson, Engine Room Artificer 1st Class Jonathon Gordon, Petty Officer Roy Hancock, Petty Officer Hugh Jones, Petty Officer James Unsworth, Petty Officer Stoker Norman Brown, Leading Seaman Geoffrey Smith, Leading Seaman Thomas Spencer, Leading Seaman Alexander Stripe, Leading Stoker John Drake, Able Seaman William Hurren, Able Seaman Vivian Lewis, Able Seaman Hugh Sweeney, Able Seaman Robert Wood and Signalman Cyril Martin.



The majority of these awards were to men who served in the various tugs or boat crews that assisted with the evacuation.

Ultimately the Navy's role at Berbera was, as in many cases before and since, an enabling role; without which the operations ashore could not have been conducted. HOBART went on to serve in other theatres of war but her 'minor episode' in the British Somaliland campaign was now over.

HMS HOBART

Туре	Modified Leander Class Light Cruiser	
Laid down	15 Au gust 1934	
Launched	9 October 1934 by Lady Florence, wife of Admiral Sir W.H.D. Boyle	
Builder	HM Dockyard, Devonport, England	
Commissioned	13 J anuary 1936	
Displacement	7,105 tons	
Length	562 feet 3 inches (overall)	
Beam	56 feet 8 inches	
Draught	15 feet 8 inches (mean)	
Armament	Original: - 8 x 6-inch guns - 8 x 4-inch guns - 4 x 3-pounder guns - 8 x 21-inch torpedo tubes (quadruple mounts)	
Horsepower	72,0 00	
Speed	32 ½ knots	



THE BATTLE OF THE RIVER PLATE A Restrospective Review

By Murray Dear

On 13 December 2010, the Royal New Zealand Navy (RNZN) will commemorate the 71st anniversary of the Battle of the River Plate, the first significant naval action of World War II. There are some interesting parallels with this battle and two actions fought 25 years earlier off the South American coast, the Battles of Coronel and the Falklands. These parallels will be explored in this review of a battle now embedded in the DNA of the RNZN.

BACKGROUND

As war clouds gathered over Europe in August 1939, naval vessels from several nations were quietly sailing for their war stations. On 6 August the German tanker ALTMARK passed through the English Channel en route to Port Arthur, Texas to take on a cargo of diesel fuel. On 21 August the panzerschiffe (armoured ship) ADMIRAL GRAF SPEE sailed from Wilhelmshaven followed on 24 August by her sister ship DEUTSCHLAND. These two warships, popularly called pocket battleships, were tasked with undertaking commerce raiding operations in the South Atlantic and North Atlantic respectively following the outbreak of hostilities.

Half a world away, the light cruiser ACHILLES departed Auckland on 29 August for the Panama Canal. This Leander class cruiser, one of two in service with the then New Zealand Division of the Royal Navy, had a ship's company of 567 of whom 26 officers and 220 ratings were from the Royal Navy and 5 officers and 316 ratings were New Zealanders. On 3 September, ACHILLES was diverted to Valparaiso to undertake operations against German shipping off the west coast of South America.

The DEUTSCHLAND was to sink only two ships totaling 6,962 tons before returning to Germany in November. The ADMIRAL GRAF SPEE (commonly referred to as the GRAF SPEE) commanded by Captain Hans Langsdorff, had more success sinking nine ships totaling 50,089 tons. Of these, eight were sunk in the South Atlantic and one during a brief incursion into the Indian Ocean.

To counter the pocket battleships, eight hunting groups were established by the Admiralty in conjunction with the French Navy. The most southerly of these was Commodore Henry Harwood's Hunting Group G based



THE BATTLE OF THE RIVER PLATE . . . continued

at Port Stanley in the Falkland Islands. By December 1939 Force G comprised the heavy cruisers, CUMBERLAND and EXETER plus the light cruisers AJAX and ACHILLES.

At sea, the war had not gone well for the Royal Navy. On 14 September the fleet carrier COURAGEOUS was sunk by U-29 with heavy loss of life, on 14 October the battleship ROYAL OAK was sunk by U-47 in Scapa Flow and on 23 November the armed merchant cruiser RAWALPINDI was sunk by the battlecruisers SCHARNHORST and GNEISENAU during a brief foray into the North Atlantic (see THE NAVY Vol 69 No.4 pp 10-13 'A Defiant Stand'). Three destroyers and a submarine had also been lost and ships damaged included the battleship NELSON, two cruisers, a cruiser minelayer and the old gunnery training battleship IRON DUKE. In reply, nine U Boats had been sunk. A victory at sea was badly needed.

THE COMBATANTS

The GRAF SPEE was the third of three sister ships built to circumvent Versailles Treaty limitations on the size of German battleships. Instead of building small coastal defence battleships as expected, the Deutschland class panzerschiffe were designed as commerce raiders with a large economical radius of operations. This was achieved by electrical welding to save weight and diesel engines



carried for reconnaissance. Top speed was 26 knots with a radius of 19,000 miles at 19 knots. Protection was similar to that of a heavy cruiser and although it might be called a pocket battleship, the GRAF SPEE was in reality no more than a heavily gunned cruiser.

Operating as a supply ship for the GRAF SPEE, the ALTMARK also served as a prison ship for the crews of the GRAF SPEE's victims. While the ALTMARK was not present at the River Plate action, the liberation of these prisoners of war within Norwegian territorial waters on 16 February 1940 was to mark the final footnote to the battle.

The CUMBERLAND was a County class cruiser

of the Kent group and a sister ship of the RAN's AUSTRALIA and CANBERRA. Its armament consisted of eight 8-inch guns in four twin turrets and eight 4-inch guns. The EXETER was of the York class and was effectively a cut-down County with six 8-inch guns in three twin turrets, four 4-inch guns and six 21-inch torpedo tubes in two triple mountings. One Fairey IIIF seaplane was carried.

The AJAX and ACHILLES were half sisters to the RAN's Improved Leander class cruisers SYDNEY, PERTH and HOBART. They were armed with eight 6-inch guns in four twin turrets, eight 4-inch guns and eight 21-inch torpedo tubes in two quadruple mountings. AJAX carried a Fairey Seafox seaplane but ACHILLES' Walrus aircraft had been lost in a pre-war accident. It will be readily apparent that Harwood's force was outgunned in range and by weight of shell but he did have one significant advantage, all of his cruisers were 5-6 knots faster than the GRAF SPEE.

THE NAVAL BATTLE

On 2 December the cargo liner *Doric Star* reported she was being attacked by a raider and this was followed by a similar report from the *Tairoa* the following morning 170 miles to the south west of the *Doric Star's* last position.



providing enough speed to escape from any warships they could not overcome with their heavy guns. The GRAF SPEE's main armament comprised six 11-inch guns in two triple turrets with eight single 5.9 inch and six 4.1 inch as secondary armament. Eight 21-inch torpedo tubes were fitted in two quadruple mounts at the stern and two Arado Ar 196 seaplanes were





Commodore Harwood correctly deduced that the GRAF SPEE (at that time thought to be the ADMIRAL SCHEER) was heading westward to South America. He estimated that at 15 knots the raider would reach the Rio de Janeiro focal area by the morning of 12 December, the River Plate focal area by the evening of 12 December or the morning of 13 December and the Falkland Islands area on 14 December. Deciding that the River Plate area was the vital area to be defended, he ordered the concentration of his available cruisers, these being EXETER, AJAX (flagship) and ACHILLES. His most powerful cruiser, CUMBERLAND, was however left to continue a planned minor self-refit at Port Stanley.

On 1 November 1914, Rear Admiral Sir Christopher Cradock had concentrated his force off the Chilean port of Coronel in expectation of meeting Vice Admiral Graf von Spee's cruiser squadron. Under his command Cradock had the elderly armoured cruisers GOOD HOPE and MONMOUTH, the light cruiser GLASGOW and the armed merchant cruiser OTRANTO. The latter ship should have been escorting his colliers far to the south but this task had been given to his most powerful unit, the slow but heavily armed predreadnought battleship CANOPUS. The absence of CANOPUS at the Battle of Coronel was a significant factor and von Spee's armoured cruisers SCHARNHORST and GNEISENAU together with the light cruisers DRESDEN, LEIPZIG and NURNBURG were to win a decisive victory. Both the GOOD HOPE and MONMOUTH were sunk with full loss of life while the lightly damaged GLASGOW and the untouched OTRANTO manage to escape and fall back on CANOPUS.

At 0614 on 13 December EXETER sighted smoke on the north-west horizon and turned to investigate. Two minutes later she reported, "I think it is a pocket battleship". Almost simultaneously the enemy was sighted by the other cruisers and while the crews were hurrying to their action stations Harwood's force split into two divisions, EXETER to the west and AJAX with ACHILLES to the north. This movement was designed to either split the enemy's main armament or compel it to concentrate fire on one division while the other was only engaged by the pocket battleship's secondary battery.

Langsdorff had assumed Harwood's force was escorting a convoy and initially took the two light cruisers to be destroyers. By the time he realised his error he was committed to battle and the GRAF SPEE's first salvo was fired at 0618. After rapidly shifting its main armament on both divisions, the GRAF SPEE concentrated its fire on EXETER and at 0624 the heavy cruiser received a direct 11-inch shell hit on B turret. Most on the bridge were either killed or wounded and Captain Bell decided to fight his ship from the after conning position. Two further 11-inch hits were then received forward and there was also splinter damage from other shells bursting short. In the meantime AJAX and ACHILLES had been

concentrating their primary armament on GRAF SPEE, forcing the pocket battleship to again split its main armament at 0630. The EXETER fired her starboard torpedoes at 0632 forcing the GRAF SPEE to make a sudden large alteration of course to port steering north-westward. The light cruisers immediately hauled around to close the range and AJAX was able to launch its seaplane at 0637 to act as a spotter. This was the only ship's aircraft which took part in the battle and it was to give an aerial advantage to Harwood.

While making a large alteration to starboard to bring its port torpedo tubes to bear, EXETER was hit by two further 11-inch shells, one knocking out the forward turret and the other causing extensive damage amidships. Only the after turret was still in action operating under local control. EXETER was now severely damaged but still fought resolutely. The port torpedoes were fired but without success and the after turret continued to engage the enemy. Meanwhile AJAX and ACHILLES had worked up to full

power and were steaming at 31 knots while firing continuously at the GRAF SPEE. At 0640 an 11-inch shell burst short of ACHILLES causing several casualties, including Captain Parry, and temporarily knocking out the director control tower. By now it was apparent that the GRAF SPEE was retiring westward at high speed and the action virtually became a chase.

At 0716 the GRAF SPEE made a large alteration of course to port under the cover of smoke and appeared as if it intended to finish off EXETER. The AJAX and ACHILLES responded by turning towards the enemy and their rapid fire scored a number of hits starting a fire amidships. The GRAF SPEE turned back to the northwest and brought both main turrets to bear on the light cruisers. At 0725 AJAX received a direct hit from an 11-inch shell which put both after turrets out of action. AJAX then fired a broadside of torpedoes, all of which were avoided by the GRAF SPEE which responded by firing its own torpedoes. These were spotted by AJAX's seaplane and easily avoided.

EXETER had to reduce speed owing to damage forward but continued to fire the after 8-inch guns until 0730 when power to the turret failed due to flooding. The full weight of GRAF SPEE's fire now fell on the light cruisers and at 0740 they turned eastward under cover of smoke. The action had lasted exactly 82 minutes.

THE RUN TO THE WEST

Following his victory off Coronel, Vice Admiral Graf von Spee took his squadron into the South Atlantic and then made a fateful ill judged decision to attack Stanley, the capital of the Falkland Islands. On 8 December 1914 the cruisers GNEISENAU and NURNBERG approached Stanley to be met by a salvo from CANOPUS. The Germans quickly realised that a powerful force was present and rather than fight, von Spee elected to flee to the south east. Coaling at Stanley were the battlecruisers INVINCIBLE and INFLEXIBLE, the armoured cruisers CARNARVON, CORNWALL and KENT plus the light cruisers GLASGOW and BRISTOL. Vice Admiral Sir Doveton Sturdee quickly got his ships to sea and began the chase after von Spee. His battlecruisers had a major advantage, both in speed and armament, and as he gained on von Spee the German admiral detached his light cruisers to the south in the hope that they might escape. It was to no avail and despite gallantly fighting to the bitter end, SCHARNHORST, GNEISENAU, LEIPZIG and NURNBURG were sunk together with two German supply ships. Only the DRESDEN and one other supply ship were to escape the carnage of the most decisive naval battle of World War I.

When AJAX and ACHILLES turned away at 0740, the GRAF SPEE made no attempt to follow them but proceeded due west at 23 knots heading for

THE BATTLE OF THE RIVER PLATE ... continued

the River Plate. The light cruisers hauled around a few minutes later and began to shadow the GRAF SPEE at long range. This continued during the morning and into the afternoon. On occasion, the GRAF SPEE would open fire with its main armament on the cruisers should they get too close. No damage was sustained from these salvos.

At 0945 Harwood ordered CUMBERLAND to proceed at full speed and join him off the River Plate. Captain Fallowfield of the CUMBERLAND had intercepted a number of jumbled messages from the battle and had already decided on his own initiative to put to sea. His run to the north was to be made in record time for a County class cruiser.

With all its main armament out of action and speed limited by extensive damage forward, EXETER limped off southward to the Falkland Islands.



After a brief stay at Port Stanley, EXETER sailed for Grytviken, South Georgia to be secretly repaired at the Norwegian whaling base there.

As GRAF SPEE ran to the west it intercepted the steamer *Shakespeare* and Langsdorff ordered the British Captain to abandon ship. The *Shakespeare's* captain stood his ground and the GRAF SPEE passed by without incident. In mid afternoon, ACHILLES sighted a strange looking vessel which it suspected was a German heavy cruiser. This was to be a false alarm as the ship was identified as a British motor vessel.

By now it was clear that the GRAF SPEE was making for Montevideo and when the sun set at 20.48 ACHILLES altered course to keep it in sight. Just after sunset the GRAF SPEE opened fire on ACHILLES to which the cruiser responded with five salvos. The GRAF SPEE was to fire three more



salvos at ACHILLES between 2130 and 2145 and these were to be the last shells fired by the GRAF SPEE. Just after midnight the GRAF SPEE anchored in Montevideo Roads.

THE DIPLOMATIC BATTLE

The arrival of the GRAF SPEE at Montevideo was to spark intense diplomatic activity and great media interest. The propaganda machines of Britain and Germany immediately burst into life, each putting their best spin on the battle. At the request of Harwood, the British Minister at Montevideo arranged for the merchant ship *Ashworth* to be sailed requiring the GRAF SPEE to remain at Montevideo for 24 hours. This gave time for Harwood to receive a welcome reinforcement. At 2200 on 14 December CUMBERLAND arrived off the River Plate having covered 1,000 miles in 34 hours at an average speed of around 30 knots. Harwood once again had a force capable of engaging the GRAF SPEE if it put to sea.

The GRAF SPEE had sustained two 8-inch and eighteen 6-inch hits but had suffered only moderate damage. All the main armament and most of the secondary armament were still fully effective but all the galleys were out of action except for the Captain's galley. Rather surprisingly for a supposedly armoured ship, the GRAF SPEE had suffered a relatively large number of casualties, nearly as many as the total Force G casualty list.

The Battle of the	River Plate - Ca	asua i ty List
	Killed	Wounded
EXETER	61	23
AJAX	7	15
ACHILLES	4	9
TOTAL	72	47
GRAF SPEE	36	60

Relief was to come to the prisoners aboard GRAF SPEE when they were all released on 14 December. Some, including all the captains of the captured British merchantmen, were to attend the subsequent funeral

of GRAF SPEE's dead and they subscribed to buy a wreath which bore the inscription "To the memory of the brave men of the sea, from their comrades of the British Merchant Service." The GRAF SPEE was granted 72 hours by the Uruguayan authorities to effect repairs. During this period, British propaganda informed the world that reinforcements were gathering off the River Plate and Langsdorff believed that the aircraft carrier ARK ROYAL and the battlecruiser RENOWN were cruising off Montevideo (they were actually still far to the north). Only Harwood's three cruisers awaited the GRAF SPEE off Montevideo. .

Meanwhile in Germany, Grand Admiral Raeder had been conferring with Hitler who was opposed to internment. Langsdorff's proposal to proceed to neutral limits and if possible fight through to Buenos Aires was approved. He was also told that the GRAF SPEE was not be interned in Uruguay and that if the ship was scuttled he was to "ensure effective destruction." Despite heated protestations from the German Ambassador, the Uruguayan government adhered to its decision the GRAF SPEE must put to sea by 1845 on 17 December or be interned. This decision was conveyed to Langsdorff who wrote protesting the time limit and intimating his decision to scuttle his ship.

On 17 December at 1817 the GRAF SPEE hoisted two large ensigns and left the harbour accompanied by the German merchant ship *Tacoma*. By 1940 the fuses of the scuttling charges had been set and Langsdorff and the demolition party left in the ship's boats for *Tacoma*. The first explosion occurred exactly at sunset and a long succession of explosions followed. Fires continued to burn in the ship for six days. Langsdorff and his crew transferred to two tugs and a lighter, which arrived in Buenos Aires on the afternoon of 18 December. The following day the Argentine government decided to intern the crew of the GRAF SPEE and that evening Langsdorff committed suicide by shooting himself.

CONCLUSIONS

Harwood had out-thought and out-fought Langsdorff and his immediate promotion to Rear Admiral was well deserved. His welcome victory was celebrated in Britain as well as New Zealand and eulogized by the First Lord of the Admiralty, Winston Churchill. The myth of invincibility surrounding Germany's pocket battleships had been shattered and in 1940 the two remaining ships were reclassified as heavy cruisers.

But the battle had been "a near run thing". If EXETER had been sunk and the GRAF SPEE had managed to elude the light cruisers then their Lordships at the Admiralty would not have been best pleased. Like Cradock at the Battle of Coronel, Harwood's most powerful warship was not present at the battle. It is clear that CUMBERLAND was fully operational and its absence appears inexplicable. While Harwood was confident of meeting the GRAF SPEE off the River Plate, perhaps he had a nagging doubt that the pocket battleship might be heading for the Falkland Islands. If this presumption is correct, then to give him credit he did have a Plan B to deal with such a situation. In the words of one writer, CUMBERLAND will be remembered as being "Too late for the River Plate and too slow for the HAGURO."

Langsdorff repeated the errors made by Graf von Spee at the Battle of the Falklands. His lookouts had sighted EXETER some fifteen minutes before the GRAF SPEE was itself sighted and despite knowing he would be engaging at least a heavy cruiser he unwisely chose to fight rather than hide. His irresolute failure to finish off the severely damaged EXETER and instead flee to the west was to contribute to his undoing. The destruction of EXETER would have forced Harwood to either rescue survivors, to continue the pursuit or to do both by splitting his light cruisers. It would not have been an easy decision.

The Battle of the River Plate was a unique naval action and unlikely to ever be repeated. Just inside the entrance of the RNZN's Devonport Naval Base, is a preserved 6-inch gun turret and director control tower from the Indian cruiser DELHI, formerly HMS/HMNZS ACHILLES. These are some of the last tangible reminders of the battle fought on 13 December 1939.



The burning and sinking GRAF SPEE after being scuttled by her crew. Unfortunately for the Germans, the water was not deep enough to sink the ship from view with her super structure remaining above water. Parts of the ship can still be seen today above the water. Up until recently the Uruguayan Government, in conjunction with the private sector, were slowly raising the wreck given it is now a hazard to navigation and to restore the ship and put it on display. Although this was stopped pending a review of the finances by the government.

The strategic background to Australia's security has changed in recent decades and in some respects become more uncertain. The League believes it is essential that Australia develops the capability to defend itself, paying particular attention to maritime defence. Australia is, of geographical necessity, a maritime nation whose prosperity strength and safety depend to a great extent on the security of the surrounding ocean and island areas, and on seaborne trade.

The Navy League:

- Believes Australia can be defended against attack by other than a super or 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 to our allies.
- Supports the ANZUS Treaty and the future reintegration of New Zealand as a full partner.
- Urges close relationships with the nearer ASEAN countries, PNG and South Pacific Island States.
- Advocates the acquisition of the most modern armaments, surveillance systems and sensors to ensure that the Australian Defence Force (ADF) maintains some technological advantages over forces in our general area.
- Believes there must be a significant deterrent element in the ADF capable of powerful retaliation at considerable distances from Australia.
- Believes the ADF must have the capability to protect essential shipping at considerable distances from Australia, as well as in coastal waters.
- Supports the concept of a strong modern Air Force and a highly mobile well-equipped Army, capable of island and jungle warfare as well as the defence of Northern Australia and its role in combatting terrorism.
- Endorses the control of Coastal Surveillance by the defence force and the development of the capability for patrol and surveillance of the ocean areas all around the Australian coast and island territories, including the Southern Ocean.
- Advocates measures to foster a build-up of Australian-owned shipping to support the ADF and to ensure the carriage of essential cargoes to and from Australia in time of conflict.

As to the RAN, the League:

 Supports the concept of a Navy capable of effective action off both East and West coasts simultaneously and advocates a gradual build up of the Fleet and its afloat support ships to ensure that, in conjunction with the RAAF, this can be achieved against any force which could be deployed in our general area.

- Believes that the level of both the offensive and defensive capability of the RAN should be increased and welcomes the Government's decisions to acquire 12 new Future Submarines; to continue building the 3 Air Warfare Destroyers (AWDs) and the two landing ships (LHDs); and to acquire 8 new Future Frigates, a large Strategic Sealift Ship, 20 Offshore Combatant Vessels, 24 Naval Combatant Helicopters, and 6 Heavy Landing Craft.
- Noting the deterrent value and the huge operational advantages of nuclear-powered submarines in most threat situations, recommends that some of the proposed Future Submarines should be nuclear-powered.
- Noting the considerable increase in foreign maritime power now taking place in our general area, advocates increasing the order for Air Warfare Destroyers to at least 4 vessels.
- Welcomes the decisions to increase the strength and capabilities of the Army and Air Force and to greatly improve the weaponry, and the intelligence, surveillance, reconnaissance, cyberspace, and electronic warfare capabilities of the ADF.
- Advocates that a proportion of the projected new F35 fighters for the ADF be of the short-takeoff and vertical-landing (STOVL) version to enable operation from small airfields and suitable ships in order to support overseas deployments where access to secure major airfields may not be available.
- Supports the acquisition of unmanned surface and sub-surface vessels and aircraft.
- Advocates that all warships be equipped with some form of defence against missiles.
- Supports the development of Australia's defence industry, including strong research and design organisations capable of constructing and maintaining all needed types of warships and support vessels.
- Advocates the retention in a Reserve Fleet of Naval vessels of potential value in defence emergency.
- Supports the maintenance of a strong Naval Reserve to help crew vessels and aircraft and for specialised tasks in time of defence emergency.
- Supports the maintenance of a strong Australian Navy Cadets organisation.

The League:

- Calls for a bipartisan political approach to national defence with a commitment to a steady long-term build-up in our national 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.

First lines are thrown as HMAS DECHAINEUX arrives at Fleet Base West, HMAS STIRLING, Western Australia. With DECHAINEUX's arrival from refit Navy says it now has three submarines available for operations.

HMAS MARYBOROUGH (foreground) in company with Indonesian Warship KRI WIRATNO during the inaugural Australian Defence Force (ADF) and Indonesian Armed Forces (TNI) coordinated maritime security patrol (AUSINDO CORPAT) which targeted illegal maritime activity.

ALL PARTY



USS WISCONSIN BB-64 at 'The National Maritime Center - Nauticus' In Norfolk Virginia. WISCONSIN has been officially relieved of duty and no longer has a requirement to be brought back into naval service. See page 19 in FLASH TRAFFIC in this edition for details. (Mark Schweikert)