

## **MARITIME NEWS – 11 DECEMBER 2016**

### **What will the Queen Elizabeth class carriers carry?**



The Queen Elizabeth class carriers are the largest and most powerful warships ever constructed for the Royal Navy, but what will they carry? The term now used for the carriers embarked squadrons is 'Carrier Air Wing' (CVW). 'Tailored Air Group' has been used in the past for tailored rotary air groups and we understand the term has fallen out of use. The carriers, in peacetime, will usually deploy with around 20 F-35Bs as a minimum and a number of various helicopters as their CVW. When the carrier first deploys operationally, the UK will have 42 F-35 aircraft, with 24 being front-line fighters and 18 used as training aircraft.

In addition to the joint force of Royal Air Force and Royal Navy F-35Bs and their pilots, the air wing is expected to be composed of a 'Maritime Force Protection' package of nine anti-submarine Merlin HM2 and four or five Merlin for airborne early warning; alternatively a 'Littoral Manoeuvre' package could include a mix of RAF Chinooks, Army Apaches, Merlin HC4 and Wildcat HM2. The Crowsnest AEW&C capability will come from the embarked Mk2 Merlins.

The vessels are capable of deploying a variety of aircraft in large numbers, up to a maximum in the upper fifties in surge conditions. We understand that the composition of the CVW is a balance between ship capacity and squadron availability. Squadrons assigned or 'programmed' to sail on deployment will mostly in the case of the aircraft carrier be unique to it, for example the airborne early warning helicopters that have no other purpose but to serve the carrier force.

In addition, we have also been told that we will shortly see decisions like this for the F-35B and maybe a utility helicopter (or tilt-rotor in future) type. Uniquely for a vessel of this size, it will be common to see the jump-jet F-35B appear to land conventionally. Although the F-35B is fully capable of performing vertical landing, in a similar fashion to the way that the Harrier and Sea Harrier operated, this method of operation places limitations on the loads that the aircraft is capable of returning to the ship with.

As a consequence, to avoid the costly disposal at sea of both fuel and munitions, the Royal Navy is developing the Shipborne rolling vertical landing (SRVL) technique. SRVL is a process designed to land jump-jet aircraft that uses both the vertical thrust from the jet engine and lift from the wings, thus maximising the payload an aircraft can return with and stopping the financial waste that comes with dropping expensive weaponry in the sea in order to land vertically.

Another operational advantage of this technique is that it can increase the landing payload capacity of a V/STOL aircraft, which can be restricted when it lands vertically. It can also reduce the level of wear on the lift engines and extend their operational life. Similarly, it can reduce the amount of wear upon the deck surface of a carrier caused by the downward jet exhaust from vertical landings. In 2012, then Defence Secretary Philip Hammond indicated in a speech in the United States that the UK would order an initial 48 F-35B aircraft to be operated jointly by the Royal Air Force and Fleet Air Arm. In November 2015, the government announced its commitment to a full order of 138 F-35 aircraft. **Source : UK Defence Journal**

***A pity they did not leave 'traps' in the equation to simplify a rolling landing.***

## Norway Looks South in Search of Arctic-Class Submarine Builder

The Norwegian government will soon ratify a decision on what new submarine type will replace the navy's aging Ula-class vessels. A decision could be made within one to two months. Norway plans to acquire up to four new Arctic-class submarines. The competition to replace the Norwegian navy's Ula-class boats is now a straight contest between France's Direction des Constructions Navales Services (DCNS) and Germany's ThyssenKrupp Marine Systems (TKMS). Significantly, Nordic industry cooperation has once again failed to affect Norway's final-stage selection, with Saab-Kockum's A-6 submarine offering having been cut from the shortlist of final candidates.

The submarine acquisition program represents a pivotal part of Norway's scaling-up of its air-surveillance, surface fleet and underwater capabilities, particularly in the strategically important High North region. Aside from the new submarine acquisition program, Norway has struck a deal to purchase five P-8A Poseidon maritime patrol aircraft from Boeing. Both large-scale capital programs are timely, and take place against a backdrop where Russia continues to invest and expand its submarine, air force and missile installations in the High North.

Acquiring the means to adequately protect Norway's borders will remain a priority in the government's spending plans moving forward, said defense minister Ine Eriksen Sørreide. "The P-8A Poseidon is a formidable platform for monitoring our oceans, and will provide both Norwegian and allied civil and military authorities with a sound basis for decisions," said Sørreide. The five P-8s will replace the Norwegian Defense Force's (NDF) current fleet of six P-3 Orion and three DA-20 Jet Falcon surveillance planes. The defense minister described the new submarine-class acquisition program as fundamental to giving Norway an effective deterrent to secure its borders and protect NATO's flank in the north.

First deliveries of the new submarines are planned to commence in 2025-2026 and continue until 2030. Norway's fleet of six Ula-class submarines began service in the early 1990s. All are due to be retired in 2030-2032. The shortlist of DCNS and TKMS marks the culmination of a submarine fleet evaluation process that the Ministry of Defense (MoD) began in 2007. The competition attracted six potential suppliers. Norway is also interested in discussing cooperation with other possible client nations like the Netherlands and Poland.

The Norwegian government has identified a broad range of subcontracting opportunities for indigenous suppliers in the eventual submarine contract, said Bernard Nilis, an industry analyst based in The Hague. "This is one of those big capital projects where the government will expect a strong degree of industrial cooperation between the supplier and Norway's defense and specialized technology sectors. Norway has companies like Kongsberg which are leading global suppliers of niche systems and technologies used in submarines," Nilis said. Kongsberg Defence Systems (KDS) has already secured a four-year contract worth US\$26 million to upgrade part of the main weapons system of the Navy's Ula-class submarines.

The Ula subs use a combat system delivered by KDS. The company has also carried out a number of upgrade programs in recent years covering the vessels' electronics and torpedo-handling systems. "The update program will ensure the Ula-class's operational capability until the new-generation submarines arrive," said Eirik Lie, KDS's acting president. With the formal decision-making process on selection nearing completion, the next stage in the submarine acquisition project will involve a political review. Prime Minister Erna Solberg's minority coalition, composed of the Conservative and Progress parties, is expected to present the submarine acquisition solution to the Storting, Norway's national parliament, during the first half of 2017.

The submission to the Storting will include the government's cost framework for the project. This will form the cornerstone for the selection decision the government plans to present to parliament. According to Nilis, Norway's decision to exclude Saab from the shortlist reflects its twofold need to find both a NATO-aligned international partner as part of the submarine acquisition solution and find a submarine type based on an existing design. "Nordic defense-industrial cooperation is made more complicated by differing national priorities. If Nordic cooperation had greater depth Norway would probably have bought the Gripen instead of the F-35 Lightning II, while its collaboration with Sweden on the joint purchase of the Archer artillery system would not have broken down," said Nilis.

The submarine, P-8A Poseidon and F-35 acquisition programs are included in the Norwegian government's Long Term Defense Plan, which was adopted by the national parliament in mid-November. The Long Term Defense Plan, said Sørreide, underlines the government's commitment to ensuring that the NDF has the right tools to do its job. "We still have a long way to go, but this [Long Term Defense Plan] is an important first step towards building a more capable and sustainable armed forces for Norway," Sørreide said. Combined, the big-ticket new submarine, fighter and maritime patrol aircraft will comprise the core of Norway's integrated defense solution for its High North territories.

The P-8A Poseidon aircraft will operate in support of underwater and surface naval assets to better monitor High North waters in the face of an elevated Russian submarine presence. The P-8A Poseidon funding plan will also cover the

acquisition of systems to strengthen Norway's ISR (intelligence, surveillance and reconnaissance) capability. The maritime patrol aircraft contract will also include a funding provision to purchase advanced sensors, new anti-submarine weapons, surveillance and support systems. The cost estimate on the five aircraft P-8A Poseidon program, including support systems, is expected to run to around US\$1.1 billion. The aircraft are scheduled to be delivered in 2021-2022. **Source : defensenews**

## **Builders Escape Most Costs as Navy on the Hook for Littoral Combat Ships**



The Freedom-class littoral combat ship **USS Freedom** (LCS 1). **U.S. Navy Photo**

The U.S. Navy must pay "for the vast majority of defects" on its troubled Littoral Combat Ship, not contractors Lockheed Martin Corp. and Austal Ltd., according to congressional investigators. The government has to foot the bill because the Navy didn't require warranties that would force contractors to pay many of the costs, as the U.S. Coast Guard does, the Government Accountability Office said in a statement delivered at a congressional hearing Thursday.

The hearing before the House Armed Services oversight subcommittee follows one last week by a Senate panel examining the \$29 billion program that's ballooned in cost over a decade, from an initial Navy estimate of about \$220 million a vessel to an average currently of \$478 million each, according to the GAO. Questions have been raised about its mission, capabilities and survival in combat.

"All the while, the Navy has continued to request funding to buy more ships and mission packages and Congress has appropriated funds," Michele Mackin, the GAO's director of acquisition and sourcing management, said in testimony that added the concern that the Navy must pay to remedy breakdowns and flaws. Twenty-six ships of what's now a 28-vessel program of Littoral Combat Ships in separate versions built by Lockheed and Austal have been delivered or are on contract; the last two are being authorized this year. An additional 12 better-armored "frigate" models are planned.

### **Burden on Taxpayers**

"Taxpayers are still responsible for most of these repair costs, even when the shipbuilders are at fault," Representative Jackie Speier, a California Democrat, said at the hearing. "These contracts mean that in some cases, the shipbuilders aren't responsible for even one cent of potential defects. Why is it that the Coast Guard can hold its shipbuilders responsible for defects, but the Navy puts the burden on taxpayers?"

The contract with Austal to build the **Coronado**, the fourth vessel built, required that the Navy pay "all the costs to correct all defects," the GAO said. In August, the **Coronado** suffered the failure of a part in its propulsion system while in transit from Hawaii to Singapore. A Navy review board identified "shaft misalignment" as a contributing factor that was part of "deficiencies in the ship construction process," the Navy said last week in testimony before the Senate Armed Services Committee. The contracts for the fifth through eighth Littoral Combat Ships provided for the shipbuilders to absorb a portion of the costs, but only up to the first \$1 million. "Time will tell whether this amount is sufficient to account for discovered defects," Mackin said.

The Navy towed the fifth ship, the Lockheed-made **USS Milwaukee**, more than 40 nautical miles to port in Virginia last December after its high-speed clutch and combining gear were damaged. Navy weapons buyer Sean Stackley told the Senate panel the failure was "specifically design-related." Altogether, there have been three recent major failures of five Littoral Combat Ships tied to either design flaws or shortcomings in construction; two others, including the

failure of gears on the **USS Fort Worth** in January that sidelined the Lockheed-built vessel in Singapore for months, were attributed to sailors failing to follow procedures. **Source : Bloomberg News**

## Swedish Submarines and SAAB

Swedish Defence Materiel Administration (FMV) has contracted Saab for the development and production of torpedo integration systems (TIS) for the Swedish Navy's new A26 submarines. According to the company, the order also includes an upgrade of existing systems on the Visby-class corvettes and Gotland-class submarines. Deliveries are to take place during the period 2017-2020.

The contract will see Saab construct, produce and verify torpedo integration systems for the two A26 submarines which were ordered by the Swedish Defence Materiel Administration in 2015. The contract also includes options for future upgrade orders. "With this contract, the Swedish Navy will have modern torpedo integration systems on their submarines and corvettes to ensure a continued and modern operation of the existing torpedo systems," says Anne-Marie Vösu, head of business unit underwater systems within Saab business area dynamics.

"With the new systems, the corvettes and submarines will also be prepared for the Swedish Navy's new lightweight torpedo, ordered in 2016 and now under development by Saab. The systems also support the integration of Saab's AUV's and ROV's on the platforms," Vösu added. **Source : Marconi!**

## Largest Dry Dock in California Arrives at BAE in San Diego



The 950-foot-long dry dock arrives at BAE Systems' shipyard in San Diego, California, December 8, 2016. **Photo: BAE Systems**

A new 950-foot-long, 55,000-long-ton floating dry dock arrived at BAE Systems' San Diego shipyard this week, part of the company's \$100 million investment in the yard to service the anticipated increase of U.S. Navy ships on the West Coast. The new floating dry dock arrived at the company's shipyard Thursday towed by the ocean-going and salvage tug **Posh Terasea Eagle**. Over the next two months, the BAE Systems team will complete final assembly, installation, testing, and certification of the dry dock, which will be operational in early 2017.

The first ship to be serviced in the dry dock will be the San Diego-homeported amphibious transport dock ship **USS New Orleans** (LPD 18). While the new dry dock might be the largest in California, the title for the largest dry dock on the West Coast, and the entire United States for that matter, actually belongs to Vigor's 96-foot-long, 85,000-long-ton "Vigorous" in Portland, Oregon. **Source : gCaptain**

***Mm – 'Vigorous' is 960' long but far greater lift iot displacement iot handle cruise ships! The new dock is required for maintenance of the Zumwalt class to be based in San Diego ito contract to BAE***

## Risking Beijing's Ire, Vietnam Begins Dredging on South China Sea Reef

Vietnam has begun dredging work on a disputed reef in the South China Sea, satellite imagery shows, the latest move by the Communist state to bolster its claims in the strategic waterway. Activity visible on Ladd Reef in the Spratly Islands could anger Hanoi's main South China Sea rival, Beijing, which claims sovereignty over the group and most of the resource-rich sea. Ladd Reef, on the south-western fringe of the Spratlys, is completely submerged at high tide but has a lighthouse.



**REUTERS/Ritchie B. Tongo/Pool/Files**

In an image taken on Nov. 30 and provided by U.S.-based satellite firm Planet Labs, several vessels can be seen in a newly dug channel between the lagoon and open sea. While the purpose of the activity cannot be determined for certain, analysts say similar dredging work has been the precursor to more extensive construction on other reefs. "We can see that, in this environment, Vietnam's strategic mistrust is total ... and they are rapidly improving their defenses," said Trevor Hollingsbee, a retired naval intelligence analyst with Britain's defense ministry.

"They're doing everything they can to fix any vulnerabilities – and that outpost at Ladd Reef does look a vulnerability." Reuters reported in August that Vietnam had fortified several islands with mobile rocket artillery launchers capable of striking China's holdings across the vital trade route. Vietnam's foreign ministry did not respond to a request for comment. The vessels at Ladd Reef cannot be identified in the images, but Vietnam would be extremely unlikely to allow another country to challenge its control of the reef.

Greg Poling, a South China Sea expert at Washington's Centre for Strategic and International Studies (CSIS), said it remained unclear how far the work on Ladd Reef would go. Rather than a reclamation and a base, it could be an attempt to simply boost access for supply ships and fishing boats. Ladd could also theoretically play a role in helping to defend Vietnam's nearby holding of Spratly Island, where a runway is being improved and new hangars built, he said.

"Vietnam's knows it can't compete with China but it does want to improve its ability to keep an eye on them," Poling said. Vietnam has long been fearful of renewed Chinese military action to drive it off its 21 holdings in the Spratlys – worries that have escalated amid Beijing's build-up and its anger at the recent Philippines legal action challenging its claims. China occupied its first Spratlys possessions after a sea battle against Vietnam's then weak navy in 1988. Vietnam said 64 soldiers were killed as they tried to protect a flag on South Johnson reef – an incident still acutely felt in Hanoi.

**Building Burst**

The United States has repeatedly called on claimants to avoid actions that increase tensions in the South China Sea, through which some \$5 trillion in world trade is shipped every year. Vietnam has emerged as China's main rival in the South China Sea, actively asserting sovereignty over both the Paracel and the Spratly groupings in their entirety and undergoing its own naval modernisation. Taiwan also claims both, but its position is historically aligned with Beijing's.

The Asia Maritime Transparency Initiative, run by the CSIS, says Vietnam has added about 120 acres (49 hectares) of land to its South China Sea holdings in recent years. Regional military attaches say Vietnam's key holdings are well fortified, some with tunnels and bunkers, appearing geared to deterring easy invasion. Vietnam's reclamation work remains modest by Chinese standards, however.

The United States, which has criticized China for militarizing the waterway, estimates Beijing has added more than 3,200 acres (1,300 hectares) of land on seven features in the South China Sea over the past three years, building runways, ports, aircraft hangars and communications equipment. Beijing says it is entitled to "limited and necessary self-defensive facilities" on its territory and has reacted angrily to "freedom of navigation" operations by U.S. warships near Chinese-held islands.

## Chinese Reclamation Work Damaged

In another image provided by Planet Labs, reclamation work in the Chinese-held Paracel Island chain appears to have been damaged by recent storms. China began dredging and land filling earlier this year at North Island, about 12 km (7 miles) north of Woody Island, where it has a large military base and this year stationed surface-to-air missiles. Satellite images in February and March showed dredging vessels working to build a 700 meter (2,300 ft) sand bridge connecting low-lying North Island with neighboring Middle Island.

But images taken after two powerful storms spun through the region in October show the narrow sand strip has been largely swept away. The Paracels have been under Chinese control for more than 40 years after a battle towards the end of the Vietnam War, when Chinese forces removed the then-South Vietnamese navy. Analysts say they play a key part in protecting China's nuclear armed submarine fleet on Hainan Island, to the north. China has not commented publicly on the work at North Island and the foreign ministry did not respond to requests for comment. **Source : gCaptain**

## DCNS Started Upgrading the Last French Navy SSBN Le Téméraire for the new M51 Ballistic Missile



French Navy Le Triomphant-class SSBN **Le Téméraire**. **Picture: DCNS**

As part of the "IA M51 programme" (Regular Overhaul / adaptation for the M51 missile) **Le Téméraire**, the last of the three French nuclear-powered ballistic missile submarines (SSBN) to benefit from this upgrade, was transferred on Wednesday, 7 December, from Ile Longue (French for "Long Island", base of the French Strategic Oceanic Force) to dock 8 of the naval base in Brest, where this large-scale work is carried out with DCNS as prime contractor. After preparation operations on Ile Longue, the M51 / regular overhaul (ROH) adaptation work starts at dock 8 of the naval base in Brest. For the next 18 months, DCNS teams will be carrying out the adaptation work for the M51 ballistic missile and the extensive refit maintenance operations involved in the major technical shutdown.

Involving nothing but superlatives (140 km of cable to be fed through, 60 tons of engine seatings to be welded, 1.3 million parts to be supplied), the ROH and adaptation operation for the M51 missile is being supervised by DCNS with the French defence procurement agency (DGA) and the Fleet Support Service (SSF) as joint client. The objective is to carry out the third and final ROH / adaptation programme after those on **Le Vigilant** and **Le Triomphant**. **Le Terrible**, the latest in the series of new-generation of SSBNs has been equipped with the M51 missile from the outset.

In addition to the complete maintenance programme, carried out every 9 years on this class of submarine, and the adaptation to accommodate the new M51 missile, the navigation and combat systems will be upgraded. Because of their size (138 metres long, 12,500 tons), onboard technologies at the cutting edge of scientific progress, and the constraints relating to their use in operations, these submarines are among the most complex systems produced in the world.

### **A workforce of 1 100**

The scope of the work will require an increase in the headcount on the site. As a result, 1 100 people will be taking part in the programme during the peak of activity in dock 8, with an organisation in three shifts, six days a week. "This complex project illustrates the expertise of DCNS, as prime contractor and project supervisor. In addition to our own teams on the sites in Brest, Ruelle and elsewhere, we are coordinating the work of some 45 companies in the region around Brest and the West of France that have been called upon to carry out with us the 4 million hours of work

required by the overhaul, all in compliance with our safety, deadlines and quality of work specifications," explains Michel Drévillon, director of the IA M51 programme.

As part of its Progress Plan and objectives to increase safety at work, DCNS has launched various performance measures in order to optimise the rhythm of the three eight-hour shifts, peaks in activity and interventions on the site. Finally, thanks to feedback from the ROH / adaptation work on the SSBN **Le Triomphant**, on this project, DCNS has further strengthened its ties with its subcontractors: a shared performance plan has been set up to meet the challenge of carrying out the full ROH / Adaptation programme in 1 month less than the last. **Source : Naval Recognition**

### **Comment by Navy Recognition**

*The M51 is fitted today on board three of the four new generation SSBNs of the French Navy (Le Triomphant class). The transition of the entire French Navy's strategic oceanic force fleet to the M51 missile is expected by the end of the decade. The M51 is the new generation intercontinental SLBM gradually replacing the M45 since 2010. Each missile carries six to ten independently targetable (MIRV or Multiple Independently targeted Re-entry Vehicle) TN 75 thermonuclear warheads. TN 75 started getting replaced with the new Tête nucléaire océanique (TNO or oceanic nuclear warhead) warheads last year (2015).*

*These new warheads are reported to be maneuverable (MARV or Maneuverable Re-entry Vehicle) in order to avoid potential ballistic defenses. The TNO has a yield that is estimated to be greater than or equal to the yield of the TN 75 warhead, 150 kilotons of TNT (kt) with a CEP (circular error probability) of 150 meters. The warhead's design and functionality were validated through simulation, particularly with DAM's Tera 100 supercomputer, Megajoule laser, and radiographic equipment. The M51 range is reported to be close to 10,000 Km.*

## **Vessels collide in Port of Cape Town dry dock**

Two vessels collided in the Sturrock Dry Dock in the Port of Cape Town on Wednesday morning when the caisson, the watertight chamber, breached and the dry dock flooded. Two of the vessels that were in the dock at the time collided, while a third one glided in the opposite direction toward open water. Maritime Review Africa reported that emergency services arrived on the scene quickly and the situation was brought under control. The **GO Regulus**, an offshore supply ship with a gross tonnage of 2 446, nearly turned sideways as it knocked into the unidentified vessel behind it and the sides of the dock with a loud bang and a lot of splashing.

The factory trawler **Longda** slipped backward out of the way of the other vessels. The cost of the damage to the vessels and the dry dock still had to be determined. All three vessels have been moved out of the dry dock. Transnet National Ports Authority had not yet responded to requests for comment on the incident. The Sturrock Dry Dock would be refurbished as part of Operation Phakisa's new build projects. Specialist studies are still underway for the refurbishments and upgrades. New circulating pumps have recently been installed.

WATCH the video: <https://www.youtube.com/watch?v=FjgyuZm971E> **Source : News24**

***This has gone viral but shows that the caisson popped up before the levels were equalised!***

## **South Africa Tells Stricken Bulk Carrier to Stay Away from Coast**



**Photo: SAMSA**

South African officials are prohibiting the stricken bulk carrier **Antaois** from coming to within 30 miles of the South African coast until all fuel oil has been removed from the ship. The South African Maritime Safety Authority is continuing to monitor the salvage of the bulk carrier in the Atlantic Ocean off the west coast of Cape Town. The organization said Thursday that it was rolling out environmental safety measures that requires the offshore removal of the estimated 170 metric tonnes of bunker fuel aboard the **Antaois** before the ship can come anywhere near the coast.

The Greek-flagged **Antaois** suffered a fire and flooding in engine room on Sunday while underway from Argentina to the Middle East approximately 870 nautical miles west of Cape Town. All 19 crew members abandoned ship and picked up by another merchant ship that brought the crew to Cape Town. The bulk carrier is currently under tow by the salvage tug **Smit Amandla** towards Cape Town. SASMA said the fuel removal is to ensure the safety of the environment.

"The South African Maritime Authority (SAMSA) requires the owner to prioritise the removal of the casualty's bunkers to neutralise any environmental threat before giving permission for the vessel to proceed closer to the South African coast," SAMSA Executive Head for the Centre for Shipping, Captain Nigel Campbell. "Until such time as the fuel transfer operation has been completed, vessel surveys undertaken and a comprehensive salvage plan approved, SAMSA has ordered that casualty remain at least 30 miles off.

"The multi-purpose tug **Peridot** is currently being mobilised from Cape Town, together with specialist personnel and equipment and will rendezvous with the convoy of tug and tow and commence preparations for the transfer of bunker fuel and water, which includes the pumping of the flooded engine room and repair of damage sustained," said Captain Campbell. The 27,700 dwt **Antaois** is said to be carrying a cargo of soya flour and corn. It is currently owned by Amalthia Marine Incorporated of Greece.

## **AGS**

**Attached, for those interested, an article on Elvis Presley's contribution towards an important naval memorial – The USS Arizona.**