

THE NAVAL REVIEW

Volume 108

MAY 2020

Number 2



COVID-19



FOR MEMBERS ONLY BY SUBSCRIPTION
INDEPENDENT & PROFESSIONAL

Suggested Concept to Enhance Royal Naval Anti-Submarine Warfare Capability in the Indo-Pacific

By the Editor: The potential threat to navies operating in the South China Sea and the south-west Pacific, from Chinese forces, cannot be discounted. The author suggests (in part to address RN Fleet shortfalls) the establishment of a prepositioned British Indo-Pacific helicopter force - a fleet of ASW helicopters stationed in South East Asia and procured by taking advantage of a commercial opportunity to acquire surplus S92 helicopters, a type in HM Coast Guard service.

Introduction

THE aim of this article is to provide an operational concept for further evaluation so as to consider the potential to enhance Royal Naval Anti-Submarine Warfare capability in the Indo-Pacific.

In doing so the following assumptions are made:

- At time of near-conflict Carrier Strike presence in the Indo-Pacific may be forward based in either Singapore as part of the Five Powers Defence Arrangement or with British Forces Brunei.
- It is 8000nm by sea (5850nm great circle distance) from Portsmouth to Singapore and we currently have a total of 7 SSNs, 6 destroyers and 13 frigates.
- The RN has a broad array of standing commitments that it is stretched to fill.
- To protect the Carrier would require 1-2 submarines and 3-6 destroyers/frigates.
- To enable Carrier Strike would need 1-3 submarines and 5-10 destroyers/frigates.
- Plus Amphibious land capability since air power must be matched by effect on the ground. These Littoral Strike Groups will require additional surface and ASW assets to protect them.
- The density of the Asian submarine threat has never been higher:
 - The Chinese fleet is said to operate 12 nuclear and 55 conventional submarines.
 - The Russian Pacific fleet has 12 nuclear and 8 conventional submarines
- So until the RN expands dramatically by up to 20-30 frigates/destroyers and an additional three to four submarines there is a substantial mismatch in comparison with potential threats.
- Each frigate/destroyer operates helicopters as a key weapon system, primarily in the anti-submarine (ASW) role. Each *Merlin* helicopter costs £60m including through-life cost.
- Offshore oil and gas rationalisation has dramatically changed the residual values of high quality marinized helicopters for sale. There is a surplus of high-quality S-92s available.
- The S-92 helicopter is similar in performance to the *Merlin* - these helicopters usually cost \$30m each in second-hand condition but are currently available for £7m each. A fleet of 12 of them are in HM Coast Guard service, operated and maintained by Bristow Helicopters.
- Sikorsky would be able to 'navalise' such surplus aircraft, with radars and sonars, and include aircrew and engineering crew conversion for \$3-5m per aircraft.

SUGGESTED CONCEPT TO ENHANCE ROYAL NAVAL ANTI-SUBMARINE WARFARE CAPABILITY IN THE INDO-PACIFIC

In essence the proposed concept is to compensate for the lack of frigates and destroyers by procuring 30 S-92 ASW helicopters and permanently base them in the Indo-Pacific to help manage the ASW threat from China and Russia. Given that a complex frigate/destroyer costs £1bn, an aircraft carrier £3bn plus and an SSN about £1.5-2bn, there is now a market opportunity for the RN to create a large fleet of ASW S-92s for \$300m (approximately £250m). The concept proposes basing the S-92's at primarily in Brunei and Singapore (clearly subject to host nation approval) but also considers the possibility of identifying secondary base locations for use at time of conflict or near-conflict.

Future RN Capability & Submarine Threat in the Indo-Pacific

Set against the RN submarine service's flotilla of seven (albeit world leading) SSNs are the combined nuclear and conventional Chinese PLA(N) submarine fleet of a total of over 75 submarines, in addition to that of the Russian Pacific Fleet.

Whilst I recognise that the success of fleet is much enhanced by the array of close strategic relationships we enjoy with the USA and other most allied partner nations globally, my concern exists, from a purely national perspective, as to whether sufficient vessels exist to meet the needs of the exciting capability of Carrier Strike. I believe carrier air power, when combined with significant amphibious capability, equals a potent and thrilling sovereign capability. I hope it is not unreasonable of me to suggest that the current Fleet is at a scale that could now be described as 'small' and placing demand upon it to meet the necessary array of its standing commitments an increasing challenge. The force required to protect the carrier to generate Carrier Strike will necessarily be substantial and noting, in all probability, global standing commitments will likely increase, all suggests a widening operational gap between tasks and capability (in terms of size of our fleet).

At a strategic level it seems to me that additional resources will be required to grow the Fleet, so as to generate the necessary protection of Carrier Strike capability in addition to the Navy's standing commitments. Or we need to create a blue water capable UK Coast Guard, equivalent to the US Coast Guard, able to assume responsibility for some of the Navy's less demanding standing commitments. That option I assume is unlikely.

It seems reasonable to suggest that at any one time from a fleet of 19 vessels, six can be generated (given maintenance, training and transit cycles) and that from a fleet of seven SSNs two or three could be generated. But this reality is rarely exposed in public discourse. Given the opportunities of Global Britain I believe the nation must be, and would welcome being, educated to this. Their fondness and concern for their Navy must be rekindled to redress the current parlous size of the Fleet.

As all should be aware, stability in the maritime domain is a pre-requisite to global stability. Global stability generates global security, and both enable global prosperity. This is part of the 'prosperity continuum' and it enables domestic prosperity, societal cohesion and national stability. It finances our collective security. There is now no doubt as to China and Russia offering different forms of threat to global stability. And China has already disturbed the rules-based international order by its militarisation of the South China Sea. And it is attempting to go further to militarise parts of the south-west Pacific, which Australia has impeded but not dispelled.

SUGGESTED CONCEPT TO ENHANCE ROYAL NAVAL ANTI-SUBMARINE WARFARE CAPABILITY IN THE INDO-PACIFIC

China has illegally laid territorial claim to the entire South China Sea by the application of its 'Nine-Dash Line.' Within this it has contested freedom of navigation by the RN, the USN, the RAN and Japan's Maritime Self-Defence Force. And it will do so when a UK carrier deploys to the South China Sea and the south-west Pacific to uphold the rules-based international order and deter China's militarisation of the key sea lanes of communication in the Indo-Pacific (which is forecast to generate 50% of global trade in the next 10-15 years and a key UK national interest).

My understanding is that Carrier Strike would generally deliver a force of six ASW helicopters to generate one or two available at any one time. Numerically one could suggest therefore that a force of 30 ASW helicopters would be required to generate 5-10 helicopters to provide sufficient ASW force protection, in addition to those able to be generated from the carrier and its surface escorts.

S-92 ASW Market Opportunity

I think I am correct in saying that we consider the best form of defence against a submarine threat to be another submarine, maritime patrol aircraft or ASW helicopters. At its heart ASW is about acoustic signature management and the ability to detect and destroy ASW threats. Clearly a primary ASW capability is a frigate and destroyer embarked *Merlin* helicopter. But numbers are insufficient to meet the potential threat. Thus, perhaps, there is a need for an interim option to increasing the Navy's surface fleet's force protection while operating in the Indo-Pacific as others are. Across the Indo-Pacific new submarine fleets are being developed by countries that have never operated them before. Existing ones such as the RAN are planning a future submarine fleet from 4 to 12 and expanding ASW capability with fleets of *P-8A* MPAs and *MH-60R* helicopters.

In time clearly increasing the *Merlin* fleet would be optimum. A *Merlin* combined with a *Type 23* frigate is a world leading ASW combination. It will become an even more powerful one with the new *Type 26* ASW Frigate – a design that has proved the success of UK complex warship design with the recent export to both the Royal Australian Navy and the Royal Canadian Navy.

The *Merlin* unit cost is in excess of £25m and its through-life cost up to £60m each. But there is an emerging short-term option, with respect to the S-92 helicopter, as an alternative to *Merlin* that may be considerably cheaper and be quickly available for the Royal Navy.

Over the last few years the UK Coast Guard has generated a 12-helicopter fleet of S-92 aircraft. *CH-148* military versions of the S-92 are in service with the Royal Canadian Navy. The S-92 is in global service with the offshore oil and gas sector.

Over 300 have been built but, in the last few years,

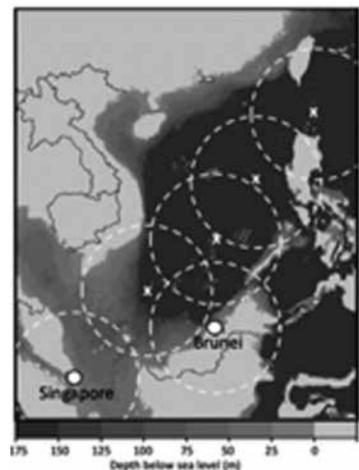


Fig. 1: South China Sea possible base locations.

SUGGESTED CONCEPT TO ENHANCE ROYAL NAVAL ANTI-SUBMARINE WARFARE CAPABILITY IN THE INDO-PACIFIC

considerable rationalisation in the global fleet has resulted in a large number now being available on the surplus market. It is thought that up to 30 are available and that the unit cost for each could be as low as \$7m each (£5.6m). With Sikorsky currently short of work, and with capacity to 'navalise' a fleet of RN S-92 aircraft, it could deliver S-92 modification (including aircrew and ground crew conversion costs of \$3-5m per aircraft), at a cost per aircraft of approximately \$10-12m per aircraft. I fully recognise the potential political complexity of procuring non-UK platforms but it may be that Sikorsky as the Design Authority might be content to create a UK facility or UK Joint Venture to enable the modification work with say, Bristow Helicopters.

Concept for Consideration - British Indo-Pacific Helicopter Force

In summary the concept would thus be to procure and 'navalise' a fleet of up to 30 S-92 ASW aircraft and permanently station those aircraft in the Indo-Pacific, so as to provide additional ASW capability to protect Carrier Strike, and other naval shipping, when required and based around the S-92 platform giving UK Coast Guard commonality. The 30-aircraft fleet might be primarily based in Singapore or with British Forces Brunei - so as to generate coverage.

Within the southern half of the 'Nine-Dash Line', consideration might be given to identifying future secondary operating bases. These would be very small footprint forward operating spots - effectively the same area as on a *Type 23* frigate. Naturally they would normally be unmanned but nevertheless identified for use as needed. To further discussion, in addition to Singapore and Brunei, four such spots are suggested at Figure 1. In this example all locations marked with an 'X' have a corresponding dashed circle around them of radius equal to half the range of the S-92s. These are also shown in relation to the depth of water where the sea has been shaded to distinguish regions that might be restrictive to submarines (i.e. of depths less than 175m).

Post Script – The Imperative for such Concepts

It is often overlooked that the pre-requisites of global prosperity are global stability and global security, and that the world that enabled all three was one largely created after the war by the United States and the United Kingdom. For the United Kingdom we often forget that it did this when exhausted by war and wearied by indebtedness. At home, and despite what we would describe today as a lack of 'bandwidth', the UK managed to create the welfare state, the NHS, free education and equality for women under the law, whilst overseas and with the United States, creating the United Nations, the IMF, the World Bank, an equal member Commonwealth and NATO itself. In other words, this weary and indebted nation then created the rules-based international order of today. All at a time of genuine austerity and, it should be remembered, when bread itself was rationed for nine long years.

It was a rules-based order that energised a world into stability and security and naturally aligned against the Soviet Union. It helped create our world's greatest ever period of prosperity and, thus, financed the growth and the threat of China itself. Outside the USA, Canada and Europe there are no greater UK allies in the maritime domain than Australia, Japan, New Zealand & Singapore.

SUGGESTED CONCEPT TO ENHANCE ROYAL NAVAL ANTI-SUBMARINE
WARFARE CAPABILITY IN THE INDO-PACIFIC

Since 1989 and the implosion of the Soviet Empire, against which NATO was created, many have questioned the relevance of a rules-based international order. But as we look at the rise of China, from its future 550-ship Navy to a Belt and Road Initiative on land and at sea that have obvious military application, one may see its greater wisdom exceeded anything we have today in its stead. If we are not to fall into a war of speed and devastation in the Indo-Pacific, against an authoritarian China, with every value in stark opposition to ours and with the potential to distort the very means we have to trade and finance itself, upholding the rules-based order may well be the only means we have to forestall it.

The United Kingdom has a specific and direct interest in maintaining the very global stability and security that enables global prosperity. This is a UK national interest. It provides our national prosperity. And that delivers our domestic stability, our societal cohesion and finances our collective security in a complex world. From NATO to Japan. From the US to Israel. There is no place for the UK to be anywhere but at the heart of the greatest threat - in the Indo-Pacific.

Today, in the maritime domain, there is no greater systemic threat than from China, in the Indo-Pacific. The purpose of this article is to offer a concept that would protect the very fleet that may arrive in the South China Sea one day, to stand with our most allied maritime nations of the United States, Australia and Japan and help insulate the Royal Navy against the possibility of leaving it, and our sailors and marines, at its bottom.

CARL STEPHEN PATRICK HUNTER

Advertising Contact:

The Editor
The Naval Review
'Kennelway'
Galmpton
Kingsbridge
Devon TQ7 3EY
Tel: 01548 561621

Printed by N2 Group

*Communications House, Foxholes Business Centre, John Tate Road, Hertford SG13 7DT
Tel: +44 (0)1992 440333 Email: hello@n2group.co.uk Web: www.n2group.co.uk
and Published by The Naval Review*

