House of Commons
Select Committee
on Defence

The Navy's purpose and procurement over the next 20 years

Comments and suggestions from Chris Cope, Political Correspondent from 1992 to the magazine Warship World

Dated 25th May 2021

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The Navy's purpose of procurement over the next 20 years

Summary of comments and suggestions from Chris Cope

The threat

The threat exists today and can only deteriorate during the next ten years. Action needs to be taken now and not in the 2030s.

Little if any thought has been given as to the impact of Scottish independence. If a Scottish government took over Faslane and ordered out all the Navy's submarines, they would have nowhere else to go. With regard to constructing the Type 26, 31 and 32 frigates, there are no comparable facilities in England and Wales for building these ships.

Carrier Strike Group

It is a matter of concern that the Navy will be losing (until early December 2021) two of the four operational Type 45 destroyers and two of the six operational Type 23 frigates.

Prince of Wales

It is by no means clear what the government plans as the role for the second carrier. The First Sea Lord envisaged that, in due course, two squadrons of F-35Bs would be operating from both carriers. Is this now government policy and if so, when will this take place?

Annual running costs

In 2017, the MoD estimated that these would be costing the budget £178m per annum per ship. If now both carriers are to be operated simultaneously, this will place an additional burden on the defence budget.

The F-35B

We are still very much in the dark with regard to numbers. FSL spoke recently in terms of needing somewhere between 60 and 80 F-35Bs. We do not know how many aircraft the RAF would wish to retain for non-carrier operations.

The operational carrier will need to operate two squadrons of jets at all times. The alternative (the MoD suggests that for routine operations the requirement will be between six and 12 jets per carrier) is unworkable.

Inevitable attrition must be taken into account when the government decides on a further order.

As availability is only likely to be 75%, this needs to be taken into account when further orders are placed.

Air Command has reduced its investment on support for Lightning to the minimum necessary.

The government has not made it clear what its intentions are with regard to the usage of the 45 F-35Bs on order for delivery to the UK as to the split between the RN and the RAF.

809 NAS

It has not been disclosed how many FAA pilots are now qualified to fly the F-35B and how many are undergoing training.

Catapult system

The Navy is looking at the possibility of fitting a catapult system to the carriers with effect from 2023. What is the government's commitment here?

Hawk T1 trainer

We need a government announcement as to what it intends to do with regard to replacing the Hawk as the Navy's jet trainer.

Air-to-air refuelling

The MoD needs to give urgent consideration to acquiring the MQ-25A Stringray for air-to-air refuelling.

Carrier On-board Delivery

Funding should be found to enable the Bell-Boeing MV-22 Osprey to be acquired in due course for COD operations.

Crowsnest

In view of what has been disclosed with regard to the 18-month delay in the Crowsnest programme, the MoD needs to introduce a system whereby, having placed a contract, it ensures that production is fully supervised so that delivery will be on time.

Puma (drone)

It seems surprising that there is no immediate drone requirement for the carriers.

Refit facilities

The MoD needs to disclose its long-term plans for major refitting of the Queen Elizabeth class as clearly, when one carrier is in long refit, we will only have one fully operational.

Defence armament

The Committee may wish to question the adequacy of defence armament for the carriers.

Escorts

The government has refused to acknowledge that the Navy has insufficient escorts in order to provide adequate cover for a Carrier Strike Group, without, in turn, depleting the rest of the Fleet.

Type 45 destroyers

If Cammell Laird can state publicly that the PIP work could be carried out, per ship, in six months, instead of the programme being completed by the summer of 2026, the timeframe could be halved.

Type 23 frigates

The explanation for the withdrawal of the two Type 23 frigates next year is disingenuous.

Type 26 programme

IDSR makes no reference to the period of construction of these frigates, which is frankly deplorable. It has not been explained why BAe Systems will be taking no less than ten years to build HMS Glasgow. One only has to look to the Far East and consider the record achieved by both Taiwanese and Japanese shipyards to see how quickly major warships can be constructed. It seems extraordinary that neither the government nor the MoD has pushed for an acceleration in the Type 26 programme.

Type 31 frigates

I remain concerned that at some stage in the future, a Type 31 frigate may find itself in a hot-war environment, when it will be extremely vulnerable to being sunk or disabled, due to its light armament.

FSS class RFA

In evidence before the Public Accounts Committee, it was disclosed that the Navy would be constrained in the way that it could operate Carrier Strike if it only had RFA Fort Victoria. Until the first of the FSS ships enters service, the MoD must rely upon the elderly RFA Fort Victoria. An acceleration of the FSS programme seems

absolutely essential. I am also concerned that only three of the new ships are likely to be ordered.

SSNs

They now have an additional role, namely to protect the CSG. The SSN fleet is stretched. Perhaps, the concept of operating SSKs should now be considered again.

Helicopters

It is a matter of considerable concern that the Wildcat has still not being fitted with a Datalink. Further concern has been expressed about the delay in bringing the Sea Venom air-to-surface heavy weapon into service with the Navy's Wildcat helicopters.

Surface-to-surface Guided Missile

The Navy faces an SSGM gap of at least seven years between 2023 and 2030. Does the new money to be spent on defence meet the shortfall concerning an interim SSGM system being purchased and fitted during the period 2023 to 2030?

Public relations

The Navy's PR department has still not put the case for Carrier Strike.

The Navy's purpose and procurement over the next 20 years

I would like to thank the Committee for inviting me to submit written evidence for its consideration. By way of background, I spent seven years in the Royal Naval Reserve between 1979 and 1986. From June 1992, I have been the political correspondent to the bi-monthly magazine *Warship World* where I write the parliamentary report and also the opinion column. Since first writing for *Warship World*, the Navy's frontline strength has diminished by 60%. I would like to concentrate on Carrier Strike for two reasons. Firstly, apart from the deterrent, I believe that the operation of the Navy's two aircraft carriers is the most important aspect of Britain's conventional forces and will remain so for many decades to come. Secondly, the operation of the carriers will affect numerous sectors in the Navy both in respect of the surface fleet, submarines and aviation. There is little that will not have an influence on the potential and direction of Carrier Strike.

The threat

I do not propose to say much about the threat as it seems clear from all the evidence available that the principal threat is from Russia, with a lesser threat from China. Both countries are expanding their navies at an unprecedented rate. In addition, the Russians are developing weapons, largely nuclear-armed, which have both a greater

range and speed (hypersonic) than those that they replace. These weapons are to be fitted on new surface ships and submarines and retrofitted to those already in service. There is no doubt that the Russians are re-arming at an unprecedented rate.

None of this seems to be of any great concern to the government. Indeed, a reading of IDSR gives the impression that the threat will not materialise, if at all, until the 2030s and therefore preparations can slowly be made over the next ten years. The threat exists now and can only deteriorate during the next ten years. Action therefore needs to be taken now and not in the 2030s. One only has to look at the painfully slow shipbuilding programme (snail's pace for the Astute class SSNs, Type 26 and to some extent Type 31 frigates). Furthermore, the only expansion in the Navy's frontline will be the construction of five Type 32 frigates, of which one will always be in refit/repair. Furthermore, these ships will not be in service for at least another ten years.

In addition, little, if any, thought has been given as to the impact of Scottish independence. Whereas the government seems to be dismissive about any possibility of Scotland becoming independent, it appears to have no contingency plans in the event that Nicola Sturgeon succeeds in her aim. On the one hand, the nuclear deterrent, together with all the Navy's SSNs, are based at Faslane. If a Scottish government took over Faslane and ordered out all the Navy's submarines, they would have nowhere else to go.

Furthermore, the Navy's entire surface shipbuilding facilities are either based on the Clyde or at Rosyth. All Type 26, 31 and 32 frigates will either by built by BAe Systems on the Clyde or by Babcock at Rosyth. There are no comparable facilities in England and Wales for building these ships. The new owners of Harland & Wolff have indicated that they are not primarily interested in warship-building. BAe Systems at Barrow are now exclusively building submarines. A surface ship has not been built there for nearly 20 years.

Bearing in mind that it is government policy not to order a warship from an overseas shipyard, one has to question how the Type 26, 31 and 32 orders can survive Scottish independence.

Carrier Strike Group

Let me start with the Carrier Strike Group (CSG) which, as I write, will be deploying to the Far East and will be absent for some 28 weeks. CSG will include two Type 45 destroyers. With Dauntless and Daring non-operational, this will absorb 50% of the operational Type 45s.

The CSG will also operate with two Type 23 frigates. Under the Integrated Defence and Security Review (IDSR) the Navy will lose, in 2022, two of its Type 23 frigates (Monmouth and Montrose). Three are undergoing refit at Devonport (Sutherland, Iron Duke and St Albans). Three have largely completed refits and either are or will

shortly be undergoing sea trials (namely Richmond, Portland and Somerset) and are not fully operational. The position as I write is that the Type 23 operational fleet is now down to six with Monmouth out of action, entirely. With two deploying to the Far East, that represents some 33%.

It is a matter of some concern that the Navy will be losing until early December two of the four operational Type 45 destroyers and two of the six operational Type 23 frigates. That does not leave much behind to defend the UK and its dependent territories or to carry out our responsibilities to NATO.

Whereas the government will be quick to point out that under IDSR the number of frigates is to be increased by 38% from 13 to 18 (with the announcement of the Type 32 programme), one can be certain that at least one of these five frigates will be in refit at any one time. Furthermore, it seems unlikely that the first of these ships will be entering service for at least ten years.

It is also significant that CSG will deploy with a USN destroyer and a Dutch frigate. Is this simply to demonstrate our ability to operate with allies or is there, in fact, a need for a CSG to operate with three destroyers and three frigates which the RN simply cannot provide?

Prince of Wales (POW)

It is by no means clear what the government plans as the role for the second carrier. Indeed, since she entered service, POW has been largely out of the news. The emphasis has been placed upon Queen Elizabeth (QE). Will POW be operating the F-35B and if so, when? In the press release coinciding with IDSR, the First Sea Lord Admiral Sir Tony Radakin (FSL) said that he envisaged, in due course, two squadrons of F-35Bs operating from both carriers. Is this now government policy and if so, when will this take place? If, as one would imagine, this is now government policy, then there has been a major change in the government's position since SDSR of 2015, when the government decided that only one carrier would be operational operating just two squadrons of F-35Bs.

Two CSGs

The FSL's press release indicates that, perhaps later this decade, there may well be an opportunity to deploy two CSGs simultaneously. If that is what is planned, then this begs the question as to how the Navy will be able to provide sufficient escorts if, as must be the case, each CSG will need two Type 45s and two Type 23s. Under IDSR, the number of frigates will drop from the present 13 to 11. This number may diminish further, bearing in mind that the MoD has announced that the Type 23s will be leaving service at the rate of one per annum from 2023. I will deal, elsewhere, with the construction of new frigates and when these are likely to come into service. It seems very unlikely that the Navy will be able to provide sufficient numbers of destroyers and frigates for two CSGs. Accordingly, we will need to reply upon our

NATO partners. I wonder to what extent the US, Dutch and French governments have made a commitment in this regard.

Realistically, the FSL's aspiration to operate two squadrons from both carriers, simultaneously, must be at least ten years away if they are to operate with RN escorts. Furthermore, the chances of operating two carriers simultaneously will be rare. Major refit/repair work could, like the Lifex modernisation for the Type 23 frigates, take three years or more. The only practical way of ensuring that two carriers are operating at all times is for the government to set aside some £4bn and build a third carrier (HMS Prince Philip?). But if no third carrier, what is to happen to the fast jets and their qualified pilots during these refit periods? Return to the RAF?

It is of some significance that in evidence before the Public Accounts Committee in September 2020, Air Marshal Richard Knighton, Senior Responsible Owner, Carrier Strike, said that government policy at that time was to operate two squadrons of F-35Bs and one carrier. Although not stated specifically, this policy appears to have been changed under IDSR. The consequence of the change is a doubling of the number of squadrons and the number of carriers in operation, in due course.

Annual running costs

I have not seen any figures with regard to the present annual running costs of QE and POW. In 2017, the MoD estimated that these would be costing the budget £178m per annum per ship. However, the MoD has said that these figures will be revised in late 2021 after the return of the CSG. If both carriers are to be operated simultaneously, following FSL's press release, then it must follow that this will place an additional burden on the defence budget.

Flooding

There have been considerable problems with flooding which has affected both ships. These problems appear now to have been resolved. However, the Committee may wish to press the MoD for an explanation as to how these problems occurred and where the responsibility lies. Will there be a claim against the shipbuilders and, if not, why not?

The F-35B

We are still very much in the dark with regard to numbers. Originally, the government indicated that 138 would be ordered. However, under SDSR 2015, the government announced that it would only be operating one of the two carriers (with the other in refit/reserve) together with two squadrons of jets. It seemed clear from that point that there was no necessity to proceed with the original policy of ordering 138. It seems very strange, therefore, that the government seems to have stuck with the number of 138 until IDSR, despite effectively admitting in 2015 that it could not justify ordering such a number.

It also needs to be stated that of the 48 on order, three will always remain in the US as these were acquired solely for training purposes. Accordingly, only 45 will be delivered for operations here.

In his press statement, FSL spoke in terms of needing somewhere between 60 and 80 F-35Bs. If his plans for two squadrons on two carriers to be operating simultaneously come to fruition and with each squadron comprising 12 aircraft, that would absorb 48 aircraft immediately.

It is not clear how many aircraft would need to be retained for training purposes. One indication is that two squadrons would be needed, but, in view of the relatively few to be operated in service, I would have thought that one squadron for training is all that is required.

That would then take numbers up to 60 (the minimum figure referred to by FSL), but then there would be nothing in reserve or to cover attrition.

We also do not know how many aircraft the RAF would wish to retain for non-carrier operations, namely in the Middle East. Even if the RAF retained one squadron, that would lift minimum numbers to 72. That though is well within the FSL's maximum number of 80.

The two squadrons referred to by FSL would only be operated on a surge basis, namely when there was an international crisis. The MoD plans are that for routine operations, the requirement will be somewhere between six and 12 jets per carrier.

The MoD seems to think that carrier operations can be turned off and on at the throwing of a switch. Frankly, it would be impossible suddenly to increase the number of jets to operate from a carrier in the event of an international crisis. Talk of increasing numbers from six to 24 is almost delusional. Where would these jets be based in the meantime? They would probably be operated overseas by the RAF by pilots with no experience of flying from a carrier. Anyone who has studied carrier operations will quickly appreciate that this can only be successful if it is practised continuously on a 24/7 basis. Indeed, this is what the Americans do. The Americans do not operate their carriers with a handful of jets, to increase them by a 'surge' in the event of an international situation. The entire crew has to practise continuously with the maximum number of jets capable of being deployed, in order to ensure that Carrier Strike can work effectively and efficiently. So if we are going to do this properly, the operational carrier will need to operate two squadrons of jets, at all times. The alternative is unworkable.

Full operating capability (FOC) is planned for December 2023 when two squadrons (24 jets) will be capable of operating from a single carrier. However, the MoD has conceded that with the number presently on order, in a high-intensity war with inevitable attrition, the Navy could not sustain two fully-operational squadrons with such limited numbers. That statement was made prior to the FSL's press release, at

a time when the government's plans were simply to operate a single carrier with two squadrons. It seems clear, therefore, that inevitable attrition must be taken into account when the government decides on a further order.

What is the anticipated availability of the F-35B? Experts doubt whether this is ever likely to be more than 75%. If therefore 24 are deployed from a single carrier, with an availability of only 75%, that indicates that only 18 will be fully operational. Talk therefore of two fully operational squadrons of 24 aircraft on each carrier is therefore misleading. Availability does need to be taken into account.

Admiral Michael Gilday, Chief of Naval Operations (CNO) of the US Navy, said recently that they were able to achieve and maintain a steady 80% mission-capable rate for the F/A-18E/F Super Hornet and had achieved this over the past 20 months. Furthermore, to be noted by the critics of the Royal Navy's carriers (such as Sir Max Hastings), Admiral Gilday said, 'There is no more survivable airfield in the world than a carrier.'

It should also be noted that the F-35B is likely to be less maintainable than the less sophisticated Super Hornet.

IDSR said that the MoD would be integrating more weapons on the F-35B in due course, but did not say what particular weapons it had in mind. Clearly, future ordnance will include Spear 3. IDSR also spoke of additional software.

On the subject of cost, it has been disclosed that the three F-35Bs delivered at the end of 2020 cost £80m each. However, the contract with Lockheed Martin provides for additional expenditure on each aircraft, including spares and maintenance and this could run into many millions of pounds. By April 2020, the MoD had spent £6bn on the F-35B out of an approved budget of £10.5bn. Overall costs out to 2048 are likely to be £18.4bn. At the time, the MoD believed that the cost of each aircraft could fall to about £65m.

With regard to the number of qualified instructors for the F-35B, it is planned that the RAF will have six and the Navy four. The official RAF/RN split of personnel in Joint Force Lightning is 58% for the RAF and 42% for the Navy. It has not been explained how these percentages were arrived at, but one must assume that the decision was made by the RAF.

All F-35Bs are to be based at RAF Marham. The MoD has spent £619m at Marham updating facilities, in particular the reinforced landing strip for vertical landings. There is no question of using RNAS Yeovilton as similar facilities have not been constructed there. RAF Air Command is responsible for the jets and the RAF has 'ownership'.

In November 2019, RAF Air Command postponed the buying of a second Lightning spares package on the grounds of affordability. It has also been reported that Air Command was reassessing how frequently it could afford to fly the jets. It has

already reduced flying hours by 20%. The Navy itself has now reset the level for spares allowance for the carriers at 70%, instead of the original 95% target. It has only acquired enough spares to keep one carrier ready for use at all times. Both the carriers and the jets need more spares than initially predicted. Air Command has reduced its investment on support for Lightning to the minimum necessary. Further delays and expenditure are likely due to financial pressure on Air Command (I quote here from an NAO report).

It seems strange that jets to operate from the Navy's carriers should have been acquired out of the RAF's 'budget' and, accordingly, lie within RAF ownership. The government has not made it clear what its intentions are with regard to the usage of the 45 F-35Bs on order for delivery to the UK. We know that, primarily, they will operate from the Navy's carriers. However, the RAF has already started to operate the F-35B from RAF bases overseas and they have already been deployed in the Middle East. Indeed, it would be surprising if the RAF did not use what is now the most sophisticated aircraft within its armoury. This, to my mind, is likely to cause a problem in the future, particularly if such small numbers are ordered. There will inevitably be a clash between the Navy's requirements and those of the RAF. Let's hope that we do not end up in a situation where there is a row over who will be allowed to play with the toys in the trunk. However, with RAF Air Command having responsibility for the jets and with the RAF having not only paid for them but claiming ownership, one must assume that any dispute will be resolved in favour of the RAF. This could then leave the Navy in the extraordinary position of wanting to operate a carrier, but not having sufficient jets to deploy. In order to avoid this situation, it might be sensible if the government was to commit itself to a total order of 72 (which would require another 27) and to make it clear that one squadron is for training, one squadron for the RAF and the other four earmarked for carrier operations. Otherwise, we could find ourselves in a situation where the UK has a couple of squadrons operating in the Middle East which cannot hastily be withdrawn for service on a carrier and, in any event, where the RAF jet pilots have little or no experience of operating from the carriers.

US munitions will be used on the F-35B. However, in 2020, it was reported that the MoD's development of a plan to introduce a system for the sharing of information with the Americans, had stalled.

809 Naval Air Squadron

It was originally planned that 809 NAS would become fully operational by 2023. Is this still the case? That would entail having 12 F-35Bs operating with Navy pilots. Interestingly, the MoD has said that the third squadron will not necessarily be an RAF unit.

It has not been disclosed how many Fleet Air Arm pilots are now qualified to fly the F-35B and how many are undergoing training. The MoD should be asked to disclose this information.

Catapult system

It was reported recently that the Navy is looking at the possibility of fitting a catapult system to the carriers with effect from 2023, namely in just two years from now. Media reports indicate that this will enable the launch of drones and jets up to 25 tonnes. What is the government's commitment here?

Hawk T1 trainer

The Navy's Hawk T1 trainer will, under IDSR, be retired by 2025. The Navy will then lose all its six Hawk T1s. IDSR does not say what will replace Hawk or when. There are no less than 50 Hawks mothballed at RAF Shawbury. All will presumably be disposed of in the next four years. We need a government announcement as to what it intends to do with regard to replacing the Hawk as the Navy's jet trainer. However, it is possible that all functions of the Hawk T1 will be taken over by the RAF.

Apart from use as a training aircraft, the Hawk T1 (operating from Yeovilton/Culdrose) is used by the Navy for exercises carrying out dummy attacks on surface shipping. It is frankly unrealistic to expect the RAF to take over this role.

Air-to-air refuelling

AM Knighton told the Public Accounts Committee in September 2020 that the MoD had no intention to put an air-to-air refuelling capability on the carriers. He said that in, say, the Persian Gulf, the F-35Bs would be able to refuel from RAF Voyagers or US air tankers. But what he did not mention is what the Navy would do if none of these tankers were in the immediate vicinity.

However, Knighton did disclose that a cost-benefit analysis of on-board refuelling instead of reliance on RAF/ US Navy tankers, would be undertaken. It is a relief that this is, at least, being considered.

The US Navy is developing the MQ-25A Stringray drone for refuelling its carrier jets which has a wingspan of 23m or 9.5m with wings folded. The drone has a length of 16m and a speed of 335 knots. It has a range of 2485 miles and will be entering service in 2024. The refuelling process has already been automated. The radar picture of a Stringray is just 368m^2. Compare that with US tankers which range from 1680m^2 to 2800m^2. The latter will make easy targets.

Stringray will be an expensive aircraft to acquire. However, it seems to me that this is something that needs to be given urgent consideration by the MoD. The carriers will be capable of operating anywhere in the world. It is frankly naïve to imagine that jets with a limited duration will always be able to rely upon RAF or allied tankers for

support. It is true that if a British carrier is operating with an American carrier, we would be able to rely upon the US Navy's Stringray drone. But if the British carrier is operating independently of a US Navy task force, it simply must have its own air-to-air refuelling capability on board. To do otherwise would be taking a considerable risk.

Carrier On-board Delivery (COD)

This is how the Americans describe it. We refer to 'Maritime Intra-theatre Lift'. I will use COD. In evidence before the Public Accounts Committee in September 2020, Air Marshal (AM) Sir Simon Bollon (Chief Executive DE&S) said that COD would be provided (as an interim solution) by Merlin MK4s. Indeed, two would be embarked on Queen Elizabeth for CSG21. He confirmed that the MoD was looking at a long-term solution, but not until the 2030s/2040s.

The US Navy is introducing as its COD aircraft the Bell-Boeing MV22 Osprey which is entering service with the US Navy.

In his evidence before the PAC, AM Knighton said that Merlin was perfectly capable of delivering COD. However, Merlin cannot lift or deliver new engines for the F-35B which Osprey can do. Furthermore, the Mark 4 has a limited range. Using a Commando helicopter, of course means fewer available for the Royal Marines.

The MV22 has a range of 2100 nautical miles and can carry 24 fully equipped Marines. It also has an external payload of 4.5 tonnes.

Interestingly, the Navy has already begun to test Osprey. RFA Argus was used.

Clearly, the Merlin Mark 4 is a stop-gap measure. Hopefully, the funding can be found to enable the Osprey to be acquired in due course for COD operations. Osprey would be capable of conveying personnel to and fro the carrier and also the delivery of stores and heavy equipment. In due course, Osprey might also be considered as a suitable successor to Crowsnest fitted to Merlin helicopters. The latter could then be released for essential ASW operations.

Crowsnest

Airborne Surveillance and Control (ASaC) will be provided by Merlin HM2 helicopters fitted with Seachwater radar and the Cerberus mission system. The Committee will be aware of the 18-month delay in the Crowsnest programme, due to a combination of failings by industry (Lockheed Martin, Thales and Leonardo) and failure to supervise by the MoD. Crowsnest will not be fully operational until 2023. Some modes, including weather, will not be available until then. Alternatives will need to be found.

The delay is exceedingly disappointing and, frankly, inexcusable. One can only hope that the safety of the Queen Elizabeth CSG will not, thereby, be compromised.

The MoD does need to introduce a system whereby, having placed a contract, it ensures that production is fully supervised in order to ensure that delivery will be on time. Assuming that industry is meeting its targets and commitments as has occurred here is frankly lamentable.

Puma

The Navy will be deploying drones (and no doubt the Puma drone) from surface ships, in due course. One would hope that Puma will be deployed from a CSG. It has a length of 4.5 feet with a nine-foot wingspan. It can survey an area of 270 square miles in a two-and-a-half-hour sortie.

Nevetheless, in his evidence before the PAC in 2020, AM Knighton said that there was no immediate drone requirement for the carriers. This seems surprising.

Refit facilities

AM Bollon told the PAC in September 2020 that there were five refit capabilities in the UK which were of sufficient size to refit the Queen Elizabeth class. The plan is for each carrier to undergo a six-week maintenance period every six years. However, Bollon made no reference, in his evidence, to the carrying out of long refits. The MoD needs to disclose its long-term plans in this regard as, clearly, when one carrier is in long refit, we will only have one fully operational.

Defence armament

Talking in terms of long refits, the Committee may wish to question the adequacy of defence armament for the carriers. Why is it that only three and not four Vulcan Phalanx systems are fitted? Certainly, serious consideration should be given to adding the Mark 44 mini-gun, of which 150 have been procured from the United States as a fleet-wide fit. The mini-gun is capable of firing up to 3000 rounds per minute.

Perhaps consideration should also be given to the installation of the Sea Ceptor surface-to-air missile which is entering service with the Type 23 frigates as a replacement for Sea Wolf. Whereas it is true that the carrier will, largely, be dependent upon its escort fleet for defence purposes, Sea Ceptor should be considered, bearing in mind how essential it will be to ensure the safety and survival of the carrier. One can expect that the carrier will be targeted. President Putin has said as such.

I turn now to the task group which will accompany the carrier on deployment. As referred to previously, this will comprise two destroyers, two frigates, two auxiliaries (one tanker, one dry stores) and an SSN.

Ever since the carriers were ordered by a Labour government in 2008, many have questioned why it is that the government has refused to acknowledge that the Navy has insufficient escorts in order to provide adequate cover for a Carrier Strike Group, without, in turn, depleting the rest of the Fleet. Indeed, the Fleet has diminished since the carriers were ordered and, in particular, the Navy lost the four Type 22 frigates under SDSR 2010. Not only that, but a Labour government decided to axe units 7 and 8 of the Type 45 programme at about the same time as the carriers were ordered.

No attempt was made between 2008 and 2021 to address the shortage of escorts and, indeed, the reverse occurred. As a result, the Navy has no choice other than to rely upon allies and it is significant that CSG will be deploying together with a US Navy destroyer and a Dutch frigate. It is now far too late to be ordering further Type 45 destroyers. Although the government has decided to increase the number of frigates, as I mentioned earlier, numbers will drop to 11 next year and it will be at least a decade before the Navy is operating three classes of frigates totalling 18 units in all. In addition, all is not well with the present status of the escort fleet.

Type 45 destroyers

The Power Improvement Package (PIP) is designed to rectify the serious engine problems which have beset the Type 45s since first entering service. The two Wartsila 12V 200 diesel generators will be replaced by three Rolls Royce MTU Series 4000 diesel generators. This will enable the ship to cruise on diesel power. The gas turbines will be used for sprinting.

The work is to be carried out at Cammell Laird in Birkenhead and the first ship to undergo refit is Dauntless. She was towed to Cammell Laird in May 2020. At the time, it was said that Dauntless would be back in service within a year. In fact, Cammell Laird itself announced that PIP work could be completed in six to eight months per ship. Nevertheless, here we are 12 months later and Dauntless has not returned to service.

One must assume that the second ship to follow Dauntless will be Daring. Daring has been non-operational since July 2017 and Dauntless since February 2016. If these ships return to service in June 2021 and June 2022 respectively, together they will have been non-operational for no less than ten years in total. This is an extraordinary and scandalous state of affairs. It is partly explained by the Navy's chronic shortage of personnel. Secondly, there have been delays in implementing the PIP programme. That we should be using frontline warships as harbour training ships is lamentable.

It is clear, as has been the case for many years, that the work needs to be carried out to the entire Type 45 fleet as a matter of urgency. It is extraordinary that the government has simply not given this priority. Indeed, if Cammell Laird can state publicly that the work could be carried out, per ship, in six months, instead of the programme being completed by the summer of 2026, the timeframe could have been halved.

As it is, the two Type 45s now deploying with Queen Elizabeth will not have had the PIP refit. The Navy faces the possibility of an embarrassing breakdown at some stage during the next 28 weeks of the deployment if engines fail on one or other destroyer.

The government has known for years when it was likely to be deploying a CSG for the first time. Provision could and should have been made to ensure that the CSG sailed with two destroyers which had received the PIP improvements.

Type 23 frigates

Under IDSR, it was announced that the Navy would lose two Type 23 frigates, namely Monmouth and Montrose which will be paid off next year. ISL has said that this will be a temporary reduction and that, thereafter, numbers will build up steadily to a force of 18 frigates by sometime in the 2030s.

The explanation for the withdrawal of these two Type 23 frigates is frankly disingenuous. It was said that withdrawing these ships early would avoid the Lifex (life extension) overhaul which both ships were due to undergo. The money saved could be invested in the new frigate programme. Whereas there is some logic in this decision, it does not explain why the ships need to be withdrawn early. They could remain in service until replaced by Type 31 frigates and simply not undergo the Lifex overhaul. As it is, Montrose continues to operate in the Persian Gulf, highly successfully as a working and most useful unit of the Navy. By withdrawing these two frigates at an earlier date than originally planned, reduces the frigate fleet by 15%.

The Type 26 programme

The government has confirmed under IDSR that it will continue to build eight Type 26 frigates. However, IDSR makes no reference to the period of construction of these frigates, which frankly is deplorable. The first of class, Glasgow, will not enter service until 2027. She was laid down in July 2017. The forward and aft sections had been completed by April of this year and will during the next few weeks be joined together. It has not been explained why, therefore, she will not have been completed and ready to enter service for another six years.

In contrast, the Australian Hunter class, modelled on the Type 26, will be constructed in half the time that of Glasgow. The first of class will be laid down in 2022. She will be in service five years later. It is also significant to note that the Australians will be

acquiring nine of the Hunter class against the Royal Navy acquiring just eight Type 26 frigates.

In his evidence before the Public Accounts Committee in January 2020, Sir Stephen Lovegrove (at the time Permanent Under-secretary at the MoD) confirmed that the ISD for Glasgow was May 2027. He went on to say that the ship should be in the water in 2023. He gave no explanation for the delay between 2023 and 2027, a period of four years for fitting out and sea trials of first of class. However, with effect from 2023, the Navy will be losing one Type 23 every year. The Type 26 and Type 31 programmes will not be able to keep abreast of this; hence a further reduction in the Fleet seems inevitable.

It has not been explained why BAe Systems will be taking no less than ten years to build HMS Glasgow. It seems possible, but unlikely, that Yarrow/Govan is unable to build a frigate in under ten years. A more likely explanation is that the substantial cost of these frigates (over £1 billion each) simply has to be spread out over a considerable number of years in order to fit within the MoD's stretched budget. If BAe Systems has been told by the MoD to take its time, it will hardly accelerate the programme if it does not get paid any sooner.

A further factor is that it makes sense extending the Type 26 programme, taking into account the fact that once this is complete, there has been no indication of what will be built at Yarrow/Govan, thereafter. We know that the Type 31 will be built at Rosyth in the frigate complex which Babcock is presently constructing. Once Babcock has finished those five ships, the follow-on order for the Type 32 frigate will be placed there. So, perhaps, the lengthy construction period for the Type 26 frigates is partly to enable those shipyards on the Clyde to remain in business. The Forth class OPVs were constructed at Govan to ensure the survival of the yard.

In contrast to the lamentably slow Type 26 construction programme (which has been questioned in the House of Lords by two former First Sea Lords), one only has to look to the Far East and consider the record achieved by both Taiwanese and Japanese shipyards. The Taiwanese shipbuilder CSBC Corporation was contracted in April 2018 to build an LPD for the Taiwan navy. Work commenced in May 2019, the keel was laid in June 2020, the ship was launched in April 2021 and handover is scheduled for June 2022. This is a substantial warship of 10,000 tonnes measuring 510 feet with a beam of 77 feet. The LPD will have been completed in just three years, a third of the time that it will take BAe Systems to build HMS Glasgow. Both are sophisticated warships and indeed the Taiwanese LPD is of greater tonnage.

Japanese Marine Limited has now completed the two Maya class destroyers for the Japanese navy. Both Maya and her sister-ship Haguro were constructed in just three years. Haguro was commissioned in March 2021 and Maya exactly a year before.

These are substantial and sophisticated warships of a tonnage of 8200 tonnes, a length of 557 feet with a beam of 73 feet. They are equipped with Aegis and are extremely well armed. They have a crew of 300.

So the Japanese navy will be getting two destroyers in just three years, whilst the Royal Navy waits ten years to get its first Type 26 frigate.

Bearing in mind the age of the Type 23s, eight of which will be replaced by the Type 26 and the fact that these old frigates are now effectively worn out, albeit with up-to-date equipment and armament, it seems extraordinary that neither the government nor the MoD has pushed for an acceleration in the Type 26 programme. No explanation for this has ever been given.

One would have thought that the Navy itself was desperate to get the Type 26 into service as soon as possible, so that it could be operating within a Carrier Strike Group. The Type 26 will be a substantial improvement over the Type 23.

Type 31 frigates

Although these are unlikely to operate from a CSG, I would invite the Committee to consider the very light armament that it is proposed should be fitted to these frigates. Indeed, the armament is so light that it is unlikely that these frigates would ever operate in a 'hot war' environment. It seems inconceivable, for example, that they would be sent to the Persian Gulf. When I questioned this with a leading naval commentator, he said that the armament was not surprising as 'you don't get much these days for £400m.'

As the Committee may recall, originally, it was planned that the 13 Type 23s would be replaced by the Type 26 on a one-for-one basis. Indeed, throughout his tenure as First Sea Lord, Admiral Sir George Zambellas said this on numerous occasions. However, one suspects that when the price tag became available, the Treasury simply put its foot down and said that it was not prepared to fund an £13bn price tag for the Navy's new frigates. As a result, the number was cut to eight Type 26 frigates. The Navy was allowed to build another five, but was told to go away and find a much cheaper version; hence the Type 31. It is significant that the Type 31 is only likely to cost some 40% than its Type 26 sister.

I remain concerned that, at some stage in the future, a Type 31 frigate may find itself in a hot war environment, when it would be extremely vulnerable to being sunk or disabled. Are we as a nation prepared to place the lives of naval personnel at such risk, because of cheeseparing with regard to armament?

FSS class RFA

I have already touched upon three scandals all of which have a direct impact upon CSG. The first are the delays with regard to the Searchwater programme. The second concerns delays in the PIP programme for the Type 45 and the third is the

delay in the Type 26 construction programme. Number 4 is perhaps the most serious of all and this relates to the extraordinary delay in ordering the Fleet Solid Support (FSS) Ships for the Navy.

In 2005, the MoD identified that it would need new FSS ships in order to replace the Fort Victoria class. Under SDSR 2010, Fort George, one of the two Fort class RFAs, was disposed of, despite having recently undergone an expensive refit. As to why this decision was made has never been explained, other than perhaps for costs reasons. At the time, the government knew that, in due course, it would be taking into service two carriers and that both would be fully operational (it was not until SDSR 2015 that this was reduced to just one). Each carrier would need an FSS, when deployed. And yet in 2010, the number of FSS ships in service was reduced to one relatively modern FSS (Fort Victoria) and two ageing FSS (Forts Rosalie/Austin) which were unlikely to be in service when the carriers became operational.

Even more alarming was the decision made in 2011 to delay the FSS programme. Furthermore, the programme did not begin until May 2018. The year before, the MoD planned that the first of class would be in service by 2026, five years after the likely deployment of the first CSG. Now we are told that the first of class will not enter service until October 2027 at the earliest and that this could be as late as April 2029.

This is an extraordinary state of affairs. As AM Knighton told the Public Accounts Committee in September 2020, the Navy would be constrained in the way it could operate Carrier Strike if it only had Fort Victoria. That constraint would continue until the FSS ships came into service ‘later this decade’. He conceded that the FSS ships had been pushed back in terms of timing as to when they would be delivered.

AM Bollon told the Committee that the competition to build the FSS ships had been stopped in November 2019 as bids had not been fully compliant. He also said that the competition could not be restarted until the results of IDSR had been announced. This seems extraordinary. I fail to understand why the competition could not have continued, irrespective of the outcome of IDSR. Surely, there was no question of IDSR scuppering the Navy’s plans for new FSS ships. It had always been accepted that these were essential in order to enable the Navy to operate overseas.

When the order is placed, these ships may be constructed in the UK. But where? There is very limited shipyard capacity. These will be very substantial ships of some 40,000 tonnes.

Alarmingly, the MoD has said that its procurement plans post-IDSR will not be announced until the autumn of 2021. Does this mean that the order for FSS ships will not take place until then, or later? The announcement of the new competition for the FSS ships was made by Ben Wallace (Defence Secretary) on 21st May 2021.

I am also concerned that only three are likely to be ordered. AM Knighton told the PAC in September 2020 that he expected one or two to be in maintenance at some

point. Operating two carriers simultaneously (as ISL envisages) would absorb two of the three planned to be ordered and that will depend on only one being in refit. What happens if AM Knighton is correct and two are in refit? One needs to be reminded that the Tide class tankers (all in service) number four and one will always operate with a CSG. Serious consideration should be given to ordering a fourth FSS. However, at £500m per ship, can the MoD afford to increase the number?

So until the first of the FSS ships enters service, the MoD must rely upon the elderly RFA Fort Victoria. The recent fire on board (luckily minor) demonstrates the folly of having just one FSS in service. Fort Victoria has sailed with CSG. However, she has limited cargo space and is due to retire in April 2028. She will not be available for most of 2022 as she will be in refit. What contingency plan does the MoD have in place to cover the non-availability of Fort Victoria which may well have to undergo a further refit sometime between 2022 and 2028? And with such an elderly ship, one also has to accept that there are likely to be unexpected repairs.

The MoD plans to preload as much spares/stores on QE as possible and then manage consumption carefully due to reliance on Fort Victoria. Alternatively, the CSG will rely upon allies.

An acceleration of the FSS programme seems absolutely essential. The first of class must be ordered before the autumn. The shipbuilder must be contracted to deliver the ship in well under five years. Taiwan can deliver an LPD in three years and Japan delivers destroyers in the same period of time.

Secondly, the MoD needs to be giving serious consideration to reactivating one of the earlier Fort class RFAs (Rosalie and Austin) presently laid up at Birkenhead. They have been laid up since June 2018 and April 2020, respectively. Although over 40 years old, there would seem to be no alternative to reactivisation, other than leasing a similar vessel from overseas, if such is available. The MoD will not disclose the cost of laying up these ships as the contract has been placed commercially and it is the usual ‘commercial in confidence’ explanation for non-disclosure. But, last week, the MoD blundered, yet again, by announcing that both ships would now be going for scrap.

Tide class tankers

With four modern tankers in service, there will be sufficient numbers capable of operating with a CSG and indeed one has sailed with QE on deployment.

SSNs

It would appear that it is now government policy (this is entirely logical) that the CSG will operate with an SSN. As at the end of May, there were six SSNs in service (two T-boats and four Astutes). However, it does not follow that all six are fully operational. We do not know how many are operational as it is government policy not to make any disclosure with regard to the availability of the submarine fleet.

However, I think that one could assume that at least one will be undergoing refit/repair and therefore the maximum number that are operational will be five.

Astutes numbered 05/06 and 07 will replace the remaining T-boats over the next five years.

The principal role of the SSNs is to protect the Deterrent. It now has an additional role, namely to protect the CSG. And yet, numbers have not increased in order to meet this commitment.

Whichever way you look at it, the SSN fleet is stretched. It does not take a genius to accept that if the maximum is five (and even when all seven Astutes are in service, the number of operational submarines will never be more than this), there are insufficient numbers in order to cover the Deterrent and a CSG with little left for other operations such as surveillance, emergencies, training and NATO operations.

Nevertheless, it is government policy to build just seven Astute class SSNs. There is to be no follow-on class, other than a replacement of the Astutes in the late 2030s. The government abandoned the concept of diesel submarines in the 1990s with the disposal of the Upholder class to the Canadian navy. Perhaps, the concept of operating SSKs should now be considered again.

Nevertheless, concern must remain that with only seven Astutes to be operational by the Navy, this will be insufficient to cover all operations.

Helicopters

I mention in particular the Wildcat helicopter which operates from both Type 45 destroyers and Type 23 frigates. It is a matter of considerable concern that the Wildcat has still not been fitted with a Datalink. This would enable the pilot to communicate information directly to the warship. What happens, in practice, is that on landing back on board, the flight commander, armed with his laptop, rushes to the bridge to convey vital information to the CO. This inevitably leads to substantial delays which could be crucial to the survival of the ship, the task group or the operation itself. Lynx 16 JTIDS fitted to the Navy's Merlin helicopters would solve the problem. No explanation has been given as to why a Datalink has not already been fitted to the Wildcat.

I would also mention the delay in bringing the Sea Venom air-to-surface heavy weapon into service with the Navy's Wildcat helicopters. Each aircraft will be able to carry four Sea Venoms. It was anticipated that initial operating capability would have been achieved by 2020. However, a year later, there seems no sign of that.

Surface-to-Surface Guided Missile (SSGM)

Only four out of the six Type 45s are fitted with eight Harpoon surface-to-surface missiles. Harpoon is now obsolete. It was due to leave service in 2018, but this was extended to 2023.

The Future Anti-Ship Missile System – a joint UK/French programme – will not be in service until 2030 at the very earliest. Accordingly, the Navy faces a surface-to-surface missile gap of at least seven years between 2023 and 2030.

In 2019, in evidence to the Commons Defence Committee, Lieutenant-General Sir Mark Poffley said that there was no funding in the equipment plan for an interim purchase. However, FSL's press statement when IDSR was published, referred to the surface fleet being armed with the latest weaponry including land-attack and supersonic missiles. That would appear to suggest that Tomahawk is likely to be fitted to the Type 45 destroyers. But does the new money now meet the shortfall as referred to by Sir Mark concerning an interim anti-ship missile system? If so, what will this missile be, when will it be acquired and will the Type 45s receive it? An off-the-shelf purchase seems possible.

HC4 search/rescue helicopters

The Navy has yet to disclose from which ship in the CSG (Queen Elizabeth, Fort Victoria or Tidespring) will the three HC4 search/rescue helicopters operate? These helicopters will be tasked for the search and rescue of F-35B pilots if they crash on land or at sea. The Committee may wish to enquire.

PR

The Navy's public relations department has still not put the case for Carrier Strike which is both persuasive and accepted by both public/media. The likes of Sir Max Hastings still dominate the headlines in questioning the need for carriers at all. The Navy needs to promote similar leaders as the one which appeared in the Western Morning News on 27th April 2021 and which clearly set out the case for Carrier Strike (see attached).

Chris Cope
25th May 2021

Western Morning News 27.4.21.
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Aircraft carriers give Britain options in fast-moving defence world

THE imminent deployment of the UK-led carrier group for its first overseas mission since the completion of the aircraft carrier HMS Queen Elizabeth is, inevitably, an occasion for a new debate about the current state of British naval power.

For the Prime Minister, the Carrier Strike Group's visits to Asia, including a show of strength in the disputed South China Sea, is an opportunity to project Britain as a global power around the world, to both friends and potential foes.

But for critics of the fiercely expensive carriers – reportedly swallowing up 15% of the entire annual defence budget in operational costs – the mission is little more than a pricey vanity project by a faded global power desperately trying to reclaim post glories through a show of military strength.

The attacks on the value of naval power, and aircraft carriers in particular, in the era of modern warfare are well rehearsed and follow a familiar pattern.

The first brickbat is that they are expensive – hard to deny at £6.2 billion, although carriers with a 50-year lifespan and relatively low manpower requirements, for their size, are more cost-effective over time than initial build costs would suggest.

The second negative thrown at carriers and their support ships are that they are impractical. Detractors suggesting smaller and more agile vessels, costing substantially less, would be better suited to dealing with likely modern conflicts, involving insurgencies rather than state-on-state warfare.

That argument falls flat, however, when you consider the fast-changing nature of geopolitics and the rise of military threats from China and Russia which need to be countered with significant shows of strength. Just when we think hot wars with other states are a thing of the past, Russia starts massing troops and weapons on neighbours' borders and the mood music changes.

Finally, carriers are said to be particularly vulnerable to attack. Russian leader Vladimir Putin is said to have described HMS Queen Elizabeth as a "nice big target." And so she is. But so are airfields, naval dockyards and army bases in the era of intercontinental ballistic missiles – aircraft carriers can at least move and project power to where it is needed. Other nations like Britain see the value in investing in new carriers and are doing so at pace.

There is, of course, an element of jingoistic excitement at spending billions on huge pieces of kit, armed with deadly jets and modern weapons and guarded by a flotilla of smaller ships sailing grandly around the world. But nations have always used their military assets for public relations as well as defence.

As an island nation, Britain has come to rely on naval strength in a number of conflicts over the years. And Britain without a strong navy and, in particular, an aircraft carrier or two, was severely handicapped.

That has now been put right. Predicting the threats of the future is a difficult business, but with the Carrier Strike Group Britain keeps most of its options open and meets all its commitments to its allies. That's something to be proud of.