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Restoring the Fleet: Naval Procurement and the National Shipbuilding Strategy

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Summary

The Ministry of Defence (MoD) is embarking on a major modernisation of the Royal Navy's escort fleet. It has undertaken to replace the thirteen existing Type 23 frigates with eight new Type 26 Global Combat Ships and at least five new General Purpose Frigates, provisionally referred to as the Type 31. At the same time, the Royal Navy's six Type 45 destroyers are about to undergo a major refit of their engines, after serious and repeated power failures.

The Government's National Shipbuilding Strategy, to be announced shortly, will set out the framework within which these ships will be delivered. Delays to the construction of the Type 26 have had a negative impact on the skills of the shipbuilding workforce, and could have major implications for costs and availability. The National Shipbuilding Strategy must provide industry with the certainty it needs to plan and develop a stable, sustainable and highly skilled workforce. If it is to be more than a statement of aspirations, the Strategy should set out clear, timed production schedules for the delivery of both classes of frigate.

The MoD recently announced that construction of the Type 26 will commence in the summer of 2017. However, that date remains dependent upon a successful conclusion to negotiations on both the design of the ship and the contract with BAES, the main supplier. The MoD must provide greater clarity and detail on the timing of the construction phase, including a clear statement that it has the necessary funds to deliver the programme expeditiously. The importance of this cannot be overstated. The Type 23 frigates will start to come out of service in 2023 at twelve-monthly intervals. If the new frigates are not delivered to that decommissioning timetable, ship numbers will be reduced further from what is already an historic low. The current total of 19 frigates and destroyers—only 17 of which are usable—is already insufficient: to go below that number, even for a transitional period, would be completely unacceptable.

The development of a new General Purpose Frigate offers the potential both to provide the Royal Navy with a broad range of capabilities and, if sufficiently versatile and economical, to increase the number of frigates in the future Fleet. The General Purpose Frigate also offers the UK the opportunity to re-enter the export market for warships. However, the drive for exports must not come at the cost of those capabilities which the Royal Navy requires. By designing a 'template' warship, on a modular basis, with the potential for 'plug-and-play' equipment upgrades throughout its working life, the UK has a unique opportunity to halt and reverse the relentless decline in the number of its naval vessels. This opportunity must be seized.

As well as delivering the new frigates, the MoD has been forced to refit the engines of all six Type 45 destroyers. The ships have suffered from serious engine failures as a result of shortcomings in specification, design and testing. Blame for those failures can be attributed both to the MoD and its contractors, but the taxpayer will have to foot the bill. The refit of the Type 45 engines should restore confidence in the reliability of the ship but it must be carried out in a way that minimises disruption to the availability of an already depleted number of destroyers.

At 19 ships, compared with 35 in 1997, the Royal Navy's frigate and destroyer fleet is way below the critical mass required for the many tasks which could confront it. If the National Shipbuilding Strategy can deliver the Type 26 and Type 31 GPF to time, the MoD can start to grow the Fleet and return it to an appropriate size. The 2015 SDSR set out the Government's ambition for a modern, capable Royal Navy. Now is the time for the MoD to deliver on its promises.

1 Introduction

Our inquiry

1. The Strategic Defence and Security Review (SDSR 2015), published in November 2015, set out the structure of the Royal Navy's surface fleet. In it, the Government committed to maintaining at least 19 frigates and destroyers by replacing the thirteen Type 23 frigates with eight Type 26 Global Combat Ships (GCS) and initially five "lighter, flexible" General Purpose Frigates (GPF).¹ SDSR 2015 also announced a commitment to build an additional two Offshore Patrol Vessels (OPVs), and stated that, by the 2030s, there could be a "further increase the total number of frigates and destroyers".²
2. The SDSR also confirmed the Government's intention to publish a National Shipbuilding Strategy (NSS), which would "lay the foundations for a modern and efficient sector capable of meeting the country's future defence and security needs".³ The Strategy, designed by Sir John Parker, chairman of Anglo American, will be published alongside the 2016 Autumn Statement,⁴ and at its heart will be the acquisition of the Type 26 GCS.
3. This Report first comments on the current and planned future capacity of the Royal Navy. It then considers the programmes for the Type 26 and the GPF frigates and the impact of their respective timetables on maintaining the current totals of frigates and destroyers in the surface fleet. The Report also examines the failings of the propulsion system of the Type 45 destroyers and the effect of delays to the Type 26 programme on the skills base in the shipbuilding industry.
4. We held two evidence sessions, hearing from a range of witnesses including former First Sea Lords, academics, representatives of industry and the Ministry of Defence. We thank all those who provided their time and expertise to this inquiry.

The capacity of the Royal Navy and the current global threats

5. The Government's Strategic Defence and Security Review (SDSR) 2015 noted that the Royal Navy delivers the UK's nuclear deterrent, projects our maritime power and provides world-class amphibious forces.⁵ Given that the UK is an island nation, the importance of these tasks cannot be overstated. Indeed, our first Report of this Parliament, *Flexible response? An SDSR checklist of potential threats and vulnerabilities* highlighted several potential threats which would require a response delivered entirely or in great part by the Royal Navy, including:

- Growing instability in the Middle East and North Africa;
- Potential for conflict in the South and East China Seas; and
- Potential for Russian aggression in Europe and the High North and possible dilution of the commitment to Article 5 of the NATO Treaty.

1 Strategic Defence and Security Review, para 4.47 [Cm 9161](#) November 2015

2 Strategic Defence and Security Review, para 4.47 [Cm 9161](#) November 2015

3 Strategic Defence and Security Review, para 6.55 [Cm 9161](#) November 2015

4 [Budget 2016](#), HC 901, para 2.284

5 Strategic Defence and Security Review, para 4.47 [Cm 9161](#) November 2015

In relation to those threats, the Report also highlighted a number of vulnerabilities which the SDSR had to address, which included:

- Inadequate training opportunities for UK Armed Forces; and
- A lack of numbers in UK Armed Forces as well as gaps in capabilities.⁶

6. The importance of the Royal Navy to UK defence and security was described, succinctly, by Admiral Lord West, former First Sea Lord:

I believe Britain still is a global nation. We have huge amounts of imports and exports by sea. [...] We need global stability, and historically the Navy has provided that. We have whittled the numbers down now, I believe, to an extent where that is at risk, which is not good for Britain, for British people globally, or for the world.⁷

7. A credible Navy is also essential for force projection. As Peter Roberts, Senior Research Fellow for Sea Power and Maritime Studies at RUSI, told us, both the political rhetoric and the threat posed to the UK are similar to those of the 1980s. But, by contrast, the size and structure of the Royal Navy reflects the geopolitical thinking of the early 2000s, which he warned “ignores the real increase and reality” of the dangers we currently face.⁸ The maritime threat to the UK was highlighted in our Report, *Russia: Implications for UK defence and security* which stated that “Russian warships have been observed close to British waters and Russian submarines have attempted to record the ‘acoustic signature’ of Vanguard class submarines carrying Trident nuclear missiles”.⁹ More recently, on 21 October 2016, a Russian carrier group sailed through the North Sea and up the English Channel en route to the Middle East. Although the MoD confirmed that it was “man-marked every step of the way” by UK and NATO warships, it was a stark reminder why the UK needs enough surface ships to present a credible response. As the BBC commented at the time:

This is not just about boosting Russian firepower in Syria. If that was the case, it would be easier for Moscow to deploy more bombers to its airbase in Syria near Latakia.

Sending a large Russian flotilla through the North Sea and the English Channel sends a clear message to the West: anything you can do, we can do just as well—or even better.¹⁰

8. Despite the continuing importance of the Royal Navy to UK defence and security, successive Governments have shrunk the Navy to dangerously low levels. In 1980, the Navy had 13 destroyers and 53 frigates. By 1990, this had fallen to 13 destroyers and 35 frigates. Numbers had been reduced to 11 destroyers and 21 frigates by 2000; and to 6 destroyers and 17 frigates by 2010. Today the figure stands at 6 destroyers and 13 frigates: although with HMS Dauntless being redesignated as a ‘harbour training and accommodation ship’,

6 Defence Committee, First Report of Session 2015–16, [Flexible response? An SDSR checklist of potential threats and vulnerabilities](#), HC 493.

7 Q1 [Lord West]

8 Q2 [Mr Roberts]

9 Defence Committee, First Report of Session 2016–17, [Russia: Implications for UK defence and security](#), HC 107, para 91.

10 [BBC news, 21 October 2016](#)

and HMS Lancaster put into a state of ‘extended readiness’, the fully operational number is actually 5 destroyers and 12 frigates.¹¹ The long-term and drastic decline in the strength of the Royal Navy can be seen clearly in the table at Appendix 1.

9. The Government takes the view that the current number of 19 frigates and destroyers is sufficient for the Navy to carry out its tasks. However, Admiral Lord West told us that the “detailed assessment” undertaken in the SDR of 1998 concluded that the Royal Navy required no fewer than 30 destroyers and frigates. “I still believe that is roughly the number we need”, he stated.¹² In similar vein, Admiral Sir Mark Stanhope, also a former First Sea Lord, told us that the SDSR of 2010 had identified a figure of 23 as the minimum number required and asserted that this remained the case today.¹³ Without giving a figure, Peter Roberts agreed that 19 destroyers and frigates was “insufficient”.¹⁴

10. The Royal Navy has a number of standing commitments, which are set out in Appendix 3. In addition to the protection of UK and home waters, they include commitments in the North and South Atlantic, the Falkland Islands, the Gulf and contributions to the four Standing NATO Naval Task Groups. A number of these tasks are undertaken by OPVs, but together the UK’s commitments represent a significant undertaking with only 19 frigates and destroyers. It is a matter to which we will return when we come to consider the impact of SDSR 2015 on the Royal Navy. That said, we are currently of the opinion that the Royal Navy requires an increase in the number of frigates, destroyers and personnel if these standing commitments are to remain sustainable.

11. As an island nation, the importance of the Royal Navy to UK defence must not be underestimated. Our starting point in this Report is our conviction that the current number of frigates, destroyers and personnel inadequately reflects the potential threats and vulnerabilities facing the UK and its interests overseas.

11 HC Deb 8 June 2016 ([40030](#))

12 Q2 [Lord West]

13 Q2 [Sir Mark Stanhope]

14 Q10 [Mr Roberts]

2 National Shipbuilding Strategy

Introduction

12. The development of a National Shipbuilding Strategy (NSS) was announced in January 2015. The MoD stated that the Strategy would:

Help deliver world class ships for the Royal Navy while ensuring the best value-for-money for the taxpayer. It will also ensure that the Navy continues to have the capability it needs to protect our nation's interests and ensure continued investment in UK warship production. It will help maintain jobs, provide new apprenticeships, and develop advanced engineering skills.¹⁵

The MoD also said that the National Shipbuilding Strategy would consider the potential to build a new complex warship¹⁶ every two years.¹⁷

13. On 16 March 2016, Sir John Parker was appointed as the Independent Chair of the National Shipbuilding Strategy, with a timetable to Report by the 2016 Autumn Statement.¹⁸ In written evidence the MoD told us that Sir John's work would consider the following:

- Lessons arising from existing programmes;
- The UK industrial base and how this might be best engaged;
- How to balance the Royal Navy's light General Purpose Frigate (GPF) requirement against export opportunities and industrial capacity; and
- The potential for simpler, reusable and exportable naval designs for future warships.¹⁹

It went on to say that the Strategy would place UK warship building on a "sustainable long-term footing" and that the Type 26 programme would form a "central part of the Strategy".²⁰ As we set out later in this Report, the Type 26 programme has been extended on several occasions, resulting in delays to the construction phase. The impact of those delays on the surface fleet is of deep concern to us and if the Strategy does not address this, the Royal Navy's capability to maintain its current meagre total of 19 frigates and destroyers, and to deliver on its tasks, may be significantly undermined.

14. In oral evidence, Harriett Baldwin MP, Parliamentary Under-Secretary of State for Defence Procurement, told us that the commitment to build eight Type 26 Global Combat Ships formed "part of the foundation [of the NSS] and informs the whole strategy".²¹ However, she explained that while the Type 26 programme and the Strategy were interrelated, they were independent exercises. Furthermore, the actual decision on the main gate for the Type 26 would be a "separate part of the overall process".²²

15 Ministry of Defence, press release, [30 January 2015](#).

16 For the MoD's definition of a complex warship, see paragraph 66.

17 Ministry of Defence, press release, [30 January 2015](#)

18 HC Deb, 29 June 2016, ([35480](#))

19 Ministry of Defence ([RNT0003](#))

20 Ministry of Defence ([RNT0003](#))

21 Q137 [Harriett Baldwin]

22 Q139 [Harriett Baldwin]

15. Although the National Shipbuilding Strategy has yet to be published, it is clear that it will play a key role in the production of the Type 26 and in future years, the GPF. The Type 23 frigates are coming towards the end of their service life and, with fewer surface ships in the Royal Navy than ever before, there is little, if any, room for manoeuvre. Therefore, the ability of the National Shipbuilding Strategy to deliver Royal Navy capabilities on time and within budget is of vital importance.

16. Alongside the delivery of the Type 26 frigates, the MoD has also to manage a major refit of the Type 45 destroyers—which we discuss later in this Report—following the well-publicised problems with their propulsion system. Taken together, this represents the replacement or refit the Royal Navy’s entire fleet of destroyers and frigates.

17. We look forward to the announcement of the National Shipbuilding Strategy, which has the potential to deliver a more coherent and timely production line of ships for the Royal Navy. However, if that potential is to be realised, the Strategy must include strict timelines for the delivery of the new Type 26 class of frigates and an indicative timeframe for the General Purpose Frigate. Without this information, the National Shipbuilding Strategy will offer little more than aspirations for the future of the Royal Navy.

18. We recommend that the National Shipbuilding Strategy sets out a detailed timeline for the delivery of the Type 26 frigates and the General Purpose Frigates alongside a clear description of how success will be measured in the coming years. We will expect the Strategy also to include a comprehensive assessment of the potential to build a new complex warship every two years, as well as a detailed schedule showing how each new frigate will arrive as each Type 23 frigate is withdrawn from service with the Fleet, so that no further reduction occurs in its already insufficient warship numbers.

19. Furthermore, we expect the Strategy to set out the criteria against which the expansion of the UK’s share of the export market in warships will be judged.

Workforce and Training

20. The National Shipbuilding Strategy is intended to provide the industry with the long-term certainty necessary to generate a secure and skilled workforce. However, we were told that that will depend upon the commencement of the construction phase of the Type 26. Duncan McPhee, Manual Convenor (Scotstoun) of Unite the Union, told us that without the Type 26 programme, there was insufficient work in Scotland for the existing workforce. This has already resulted in BAES retaining staff at Rosyth on the carrier programme for “longer than anticipated” and will also result in other members of the workforce being re-tasked at the Barrow shipyard.²³

21. Mr McPhee highlighted the fact that the absence of work on the Type 26 was undermining the ability to provide apprenticeships. Following the start of the construction phase of the Carrier programme, BAES was recruiting 100 apprentices a year. This was important to the industry as it both brought in new entrants and lowered the age profile of the workforce.²⁴ Furthermore, that throughput of apprentices played a key role

23 Q117 [Mr McPhee]

24 Q118 [Mr McPhee]

in sustaining the appropriate level of skills for the longer-term.²⁵ By contrast, only 20 apprentices would be recruited in 2016 and Mr McPhee asserted that this was “solely because of the decision to move the Type 26 to a later date”.²⁶ Alongside this, existing apprentices were experiencing significant disruption to their training:

We are going to recruit 20 this year, and there are steelworkers who started last August who we have now had to switch to other trades. Fortunately, we are keeping them within the business, but in all my time in shipbuilding, I have never known apprentices to start with one trade and then, six months later, have to switch to another one. They were brought in because we thought we would be working on the steelwork for the Type 26. That is the impact on training and young people.²⁷

Of still greater concern to us was the fact that Mr McPhee warned that any further delay would be “catastrophic” to the industry.²⁸

22. Despite this assessment, Tony Douglas, Chief Executive of Defence Equipment and Support, Ministry of Defence, was far more optimistic about the shipbuilding industry and declared that the opportunities had “probably not been so good for an awfully long time”.²⁹ He restated the MoD’s commitment to work not only to sustain skills in the industry but also to build on them.³⁰ Clearly, the MoD’s recent announcement that “the steel cut for new Type 26 frigates will be in summer 2017” is a welcome development. However, this remains subject to the conclusion of negotiations on both the design and the overall contract.³¹ Until these matters have been concluded, a level of uncertainty remains over the programme.

23. The MoD also asserted that the announcement of a date for cutting steel for the Type 26 would secure “hundreds of skilled jobs through until 2035.” However, the construction of the General Purpose Frigate was not included in that announcement. Without a commitment to that work being undertaken on the Clyde, there will not be sufficient work to sustain the workforce over two decades. Furthermore, the MoD did not address infrastructure investment required to build an indoor assembly hall (or “Frigate Factory”) on the Clyde, which would facilitate a much faster drumbeat not only for the Type 26, but also for future orders.

24. It is clear to us that the delays in the construction of the Type 26 have had a negative impact on the development of the workforce on the Clyde. Apprenticeships are not being offered at the necessary rate, and those currently undertaking apprenticeships are having their skills training disrupted. Furthermore, workers are being required to move from Scotland to Barrow in order for them to undertake meaningful work. We welcome the efforts made by the trades unions and BAES to retain the workforce during this period of uncertainty, but remain deeply concerned by warnings that further delay could be “catastrophic” for the skills base.

25 Qq118–120 [Mr McPhee]

26 Q118 [Mr McPhee]

27 Q120 [Mr McPhee]

28 Q121 [Mr McPhee]

29 Q205 [Mr Douglas]

30 Q205 [Mr Douglas]

31 [MoD press release, 4 November 2016.](#)

25. *The Government must, as a matter of priority, ensure that the UK retains the specialist skills necessary to deliver the National Shipbuilding Strategy. It can do this only if the National Shipbuilding Strategy provides a programme of work on which industry and the workforce can rely. This must include a timetable for both the Type 26 and the GPF. If the UK is not building sufficient ships, the skills base will be depleted with long-term impacts on both our national security and the UK's defence industrial infrastructure. To ensure the future skills required for ship building it is essential that the Government does more to protect and secure the apprenticeship programme. The Government must set out in the National Shipbuilding Strategy, the numbers of apprenticeships required in each of the key trades and how it will monitor them to ensure there are no longer-term skills gaps.*

3 Type 26 Global Combat Ship

Introduction

26. The 2005 Defence Industrial Strategy announced a Future Surface Combatant (FSC) study to consider how the capabilities provided by the Type 22 and Type 23 frigates could be met in the future.³² At present, there are thirteen Type 23 frigates. Eight of the frigates are specialist anti-submarine frigates designed to protect the UK's nuclear deterrent submarine fleet and the future aircraft carrier and amphibious task forces. The remaining five are general purpose frigates.³³ The older Type 23 frigates are now nearing the end of their service life with the first of class, *HMS Argyll*, due to come out of service in 2023.³⁴

27. SDSR 2010 stated that the Type 23 class would be replaced with the new Type 26 class on a one-for-one basis.³⁵ SDSR 2015 modified that commitment with the announcement that the thirteen Type 23 frigates would be replaced by eight Type 26 frigates in an anti-submarine role and at least five frigates from a new class of General Purpose Frigate (GPF),³⁶ provisionally designated as the Type 31.

The Type 26 Programme

28. The National Audit Office's (NAO) *Major Projects Report 2015 and the Equipment Plan 2015 to 2025*,³⁷ provided a detailed assessment of the Type 26 programme and a timeline for the design and delivery programme.³⁸ The Concept Phase for the Type 26 was completed with Initial Gate approval given by the MoD on 18 March 2010.³⁹ Originally, the Assessment Phase was due to be completed in December 2013. As the NAO noted, the deadline for the Assessment Phase was extended on a number of occasions in order that the design be "further matured ahead of the main investment decision".⁴⁰ The Assessment Phase was finally signed off on 31 March 2015.⁴¹

29. Approval was then given to proceed to the Demonstration Phase, which would cover the period 1 April 2015 to 31 March 2016.⁴² The expectation was that the manufacturing stage would follow shortly afterwards and in April 2016, Defense News reported that the original target was to start later that year.⁴³ However, on 22 March 2016, Philip Dunne MP, the then Minister for Defence Procurement, announced that the Demonstration Phase would be extended to June 2017 in order to:

32 Defence Industrial Strategy [Cm 6697](#), December 2005

33 HC Deb, 18 October 2016, [col 318WH](#)

34 Jane's Navy International, [13 July 2016](#)

35 Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review [Cm 7948](#), October 2010.

36 Strategic Defence and Security Review, para 4.47 [Cm 9161](#) November 2015

37 National Audit Office [Major Projects Report 2015 and the Equipment Plan 2015 to 2025](#) Session 2015–16, HC 488-II

38 Concept, assessment, demonstration, manufacture, in-service, disposal (CADMID)

39 National Audit Office, [Major Projects Report 2015 and the Equipment Plan 2015 to 2025](#) Session 2015–16, HC 488-II

40 National Audit Office, [Major Projects Report 2015 and the Equipment Plan 2015 to 2025](#) Session 2015–16, HC 488-II

41 National Audit Office, [Major Projects Report 2015 and the Equipment Plan 2015 to 2025](#) Session 2015–16, HC 488-II

42 National Audit Office, [Major Projects Report 2015 and the Equipment Plan 2015 to 2025](#) Session 2015–16, HC 488-II

43 [Defense News, 22 April 2006](#)

Mature further the detailed ship design, ahead of the start of manufacture, including investing in Shore Testing Facilities, and extend our investment in the wider supply chain in parallel with the re-baselining work which is continuing.⁴⁴

30. The Type 26 programme has seen a significant extension to its timetable with a thirteen month extension to the Assessment phase followed by an additional fifteen months to the Demonstration phase.

31. When he gave oral evidence to us, John Hudson, Managing Director of BAES Maritime, stated that, despite the significant extensions to the Type 26 programme, further work was still necessary before it could reach the threshold for production. He confirmed that the design of the ship was progressing but that a number of aspects of the design had yet to be finalised—for example, the “compartmentalisation of the ship’s internal structure and the manner in which many of the communications systems are completed and integrated”.⁴⁵ He went on to explain that although these design issues were “on track” it was not yet possible to “fix a price” until there was “absolute clarity” on the final design decision.⁴⁶

32. In written evidence, the MoD restated that no start date had been fixed for the construction phase and that it would be “determined by the work we are doing with BAE Systems to agree a production schedule that reflects the outcome of the Strategic Defence and Security Review (SDSR)”. It went on to say that this work was “on-going” and would take “a number of months to complete”.⁴⁷

33. When we questioned Tony Douglas, from Defence Equipment and Support (DE&S), about the start-date he believed that the MoD would be in a position to “bring a definitive set of dates in the relative short term”. However, he was unable to give a precise date because it was “subject to a commercial negotiation”.⁴⁸ He continued:

It will take as long as it takes for us to be able to satisfy the Ministry of Defence, the taxpayer and Her Majesty’s Royal Navy that we have landed the performance, through industry, that is necessary to deliver the programme.⁴⁹

And added that:

The schedule component of this is at the heart of closing out an appropriate deal that maps the requirements of Her Majesty’s Royal Navy, maps into the requirement of the Type 23, optimises value for money, and delivers a build schedule that drives performance with BAE Systems.⁵⁰

34. On Friday 4 November 2016, the MoD finally announced that the Construction Phase of the Type 26 programme would start in the summer of 2017. However, that announcement came with several major caveats. Detailed contract negotiations have yet to be concluded, and the ship’s design has yet to be finalised. Construction can start only

44 HC Deb, 22 March 2016, [Col 59WS](#)

45 Q175 [Mr Douglas]

46 Q175 [Mr Douglas]

47 Ministry of Defence ([RNT0003](#))

48 Q142 [Mr Douglas]

49 Q165 [Mr Douglas]

50 Q141 [Mr Douglas]

when these matters have been resolved. The MoD also confirmed that construction of two Offshore Patrol Vessels would start shortly and that those vessels would be delivered in 2019 “before the start of the Type 26 programme gets fully under way”. Unfortunately, no information was provided on the pace of construction or the delivery schedule for the eight frigates.⁵¹ At Defence Questions in the House on Monday 7 November, the Chair of the Committee asked the Secretary of State whether the first Type 26 would be ready to enter service in 2023, at the same time as the first of the Type 23 frigates was due to leave service. Unfortunately, the Secretary of State’s response was uninformative:

Yes, I can confirm that it is our intention to replace the anti-submarine frigates within the Type 23 force with eight new Type 26 anti-submarine frigates.⁵²

35. The MoD’s announcement that the construction phase of the Type 26 will start in the summer of 2017 belatedly represents a step forward, but it raises as many questions as it attempts to answer. We are concerned at an apparent degree of complacency and lack of urgency on the part of the MoD and DE&S. The start date remains contingent on a successful conclusion to the negotiations between the MoD and BAES on both the design and the contract. Furthermore, even with a 2017 start date, the Type 26 programme will not be “fully underway” until 2019. If we are to have confidence that the Type 26 programme is back on track, the MoD must provide us with a detailed assessment of those design and contract issues which remain outstanding, the build programme for the Type 26 and the rate of output of the ships.

Financial constraints

36. A number of our witnesses were not convinced that the iterative nature of the design process was the cause of the extension of the programme. Rather, they argued, financial constraints lay at the heart of the delay. Peter Roberts from RUSI questioned the need for such a lengthy design process. In his opinion the Type 26 would not be a “gold-plated, fantastic, world-beating, cutting-edge unit” and that “a lot of the equipment” on the Type 26 would be transferred directly from the existing fleet of Type 23s:

This is not a bunch of new kit that is arriving, it is a new hull that will take these systems. We don’t have a new or massive increase in capability. We need to understand that this is simply a like-for-like replacement for the current one we’ve got, in order effectively to reduce the risk of hull degradation that we have got from current platforms that are way over their service limit.⁵³

37. Lord West, First Sea Lord between 2002 and 2006, went further:

The reality is there is not enough money in the MoD this year and next year. We have run out of money, effectively. Therefore, they have pushed this programme to the right.⁵⁴

51 [MoD press release, 4 November 2016.](#)

52 HC deb, 7 November 2017, [col 1251](#)

53 Q4 [Mr Roberts]

54 Q20 [Lord West]

Peter Roberts agreed. He asserted that there was a £750 million shortfall in the funding for the programme in the current year which would have “a significant impact and may require capability trade-offs” which could require a further three years to complete.⁵⁵

38. Duncan McPhee, also said that meetings between the trade unions and BAES had pointed towards financial constraints being at the heart of the delay to the manufacturing stage of the programme.⁵⁶ While John Hudson from BAES did not offer much in the way of detail, the following exchange between the Chair of the Committee and Mr Hudson also hinted at financial constraints being a relevant factor:

Q47 Chair: We are in the position, then, that unless the Ministry of Defence comes up with more money we are going to see a big slowdown in this programme, aren't we?

John Hudson: In terms of frigate numbers, that is a case of mathematics.⁵⁷

39. When presented with the assertion that there was a £750 million shortfall in the budget, Tony Douglas, DE&S, was equivocal in his response:

If there is a number—you asserted [£750 million], but if there is one—first principles tell us all that there are only two ways of resolving that: we either invest more on behalf of the taxpayer or we negotiate it out through performance, or a combination.⁵⁸

Harriett Baldwin MP stated that she did not recognise this concern and said that the MoD was “pleased with the overall budget allocation” delivered through SDSR 2015.⁵⁹

40. However, Admiral Sir Philip Jones, First Sea Lord and Chief of the Naval Staff, acknowledged that financial considerations were matters which had yet to be resolved. He said that the MoD was “still working through [its] annual budget cycle in order to set the SDSR assumptions into hard budgeting fact” and that the MoD was yet to be in a position to confirm “definitive annual budget cycle figures for a number of the SDSR programmes”.⁶⁰

41. In our Report on defence expenditure, *Shifting the goalposts? Defence expenditure and the 2% pledge*, we set out our concerns that spending 2% of GDP on defence may not be enough to fund the MoD's procurement plans and came to the following conclusion:

The MoD must provide evidence that, should a disparity arise between procurement aspirations and affordability within the threshold expenditure of 2% of GDP, finances will be available to mitigate this which will not be removed from another part of the budget to which they have already been committed.⁶¹

55 Q22 [Mr Roberts]

56 Q123 [Mr McPhee]

57 Q47 [Mr Hudson]

58 Q170 [Mr Douglas]

59 Q168 [Harriett Baldwin]

60 Q159 [Admiral Jones]

61 Defence Committee, Second Report of Session 2015–16, *Shifting the goalposts? Defence expenditure and the 2% pledge*, HC 494.

42. The SDSR was announced alongside an increased Defence Equipment Budget, which the Government asserted would provide sufficient funding for the programmes contained within it. We are deeply disappointed that, only 12 months later, a key programme for the modernisation of the Royal Navy appears to be under severe financial pressure. If the SDSR is to be more than a collection of aspirations, it has to be fully funded. As we warned in our Report on the Government’s commitment to spend barely 2% of GDP on defence, the current funding settlement may not be enough.

43. *In its response to our Report, we will expect the Government to provide a clear timeline—with costings at each stage—for the Type 26 programme. In doing so we will also expect to receive clear statements that the necessary funds are available in this financial year and for subsequent financial years alongside details on the amounts spent on the programme as it progresses. Above all, we seek an absolute assurance that short-term financial limitations are not storing up for the future, large cost consequences caused by otherwise avoidable delays in the Type 26 construction programme.*

Costs of further delay

44. It is clear to us that the MoD should, as a matter of course, negotiate the best deal for the taxpayer. However, it should also keep in mind that extending the life of programmes in order to extract further value for money is not a cost-free exercise. In oral evidence, Lord West told us that previous experience of extensions of programmes and resultant delays led to programmes “costing more money”.⁶² As an example, he highlighted the delays to the production of the *Astute* class submarines, which, he argued cost the MoD “just under three-quarters of a billion more than it would have cost us if we had ordered them [on time]”.⁶³

45. In response to this concern, John Hudson acknowledged that costs could increase but said that this was a matter for discussion between BAES and the MoD. That said, he was unable to provide any detail on size of any increase:

We do not know what the programme is going to be, and therefore I do not have a figure that could advise you of what the increase will be.⁶⁴

That said, he noted the views of Lord West and acknowledged that there was a “theme” there.⁶⁵

46. Admiral Jones also noted the potential for it to increase costs and that managing cost was at the heart of negotiations over the scheduling of the Type 26:

That is precisely the trade-off of capability, costs and time that is happening as part of the strategy. Of course, as part of that strategy not only the Type 26 but the general purpose frigate will play into that mathematical equation over frigates and destroyers.⁶⁶

62 Q20 [Lord West]

63 Q20 [Lord West]

64 Q51 [Mr Hudson]

65 Q52 [Mr Hudson]

66 Q154 [Admiral Jones]

47. The MoD's announcement of a summer 2017 start date for the Construction Phase for the Type 26 relies on a successful conclusion to negotiations on both the contract and the design of the ship. Should these not be concluded in time for construction to start in summer 2017, further delays will occur, inevitably increasing the overall cost of the Type 26 programme. Such additional costs would result in increased pressure on a Royal Navy budget which is already being squeezed. Furthermore, the pace of construction phase must not be dictated by the financial constraints of the MoD. The use of artificial delays to the programme as a way of managing an over-stretched budget would serve only to increase costs and to undermine further the UK's already severely depleted surface fleet.

48. We do not underestimate the importance of value for money to the taxpayer. However, this should not be to the detriment of the capabilities needed by the Royal Navy. With the surface fleet already smaller than ever before, the priority must be to deliver the Type 26 programme in an expeditious manner. Slowing the pace of the programme just to squeeze out a marginally better deal will not deliver a much-needed capability, and will serve only to increase costs further down the line, especially if the promised infrastructure investment is not forthcoming.

49. There is a history of poor value for money caused by moving start dates being moved to the right and repeated delays in commencing construction. The MoD does not seem to learn from past mistakes and mismanagement of budgets through built-in delays.

Transfer of equipment

50. As Peter Roberts pointed out to us, much of the equipment to be installed on the Type 26 frigates will come directly from the Type 23s. The efficient transfer of that equipment from ship to ship is therefore a key component of the Type 26 programme—not least because the Type 26s will be built on the Clyde, whereas work on the Type 23s is carried out at Devonport.⁶⁷ We were therefore concerned that this would add an additional logistical complication to the programme. Admiral Jones, explained that plans had been put in place to ensure an efficient transfer of equipment. He told us that to avoid any reduction in the complement of the surface fleet, new equipment had been procured for the first of the Type 26s. The new equipment would provide “a residue of decommissioned Type 23s' equipment”, which would be recycled, and delivered into the Type 26 construction programme”.⁶⁸ As a result, there should be no gaps in capability during the one-for-one replacement of the Type 23s. Admiral Jones also was confident that this approach would deliver “much more resilience” into the programme and allow for the transfer of tested equipment which would bring into service the Type 26s “much faster than we've seen before”.⁶⁹

51. **The procurement of new equipment for the first Type 26 frigates has the potential to smooth the transfer of existing Type 23 equipment to the later Type 26 frigates. *In its response, we recommend that the MoD provide further detail on the progress it has made on the manufacture and purchase of that equipment and the expected date of its completion.***

67 Q200 [Admiral Jones]

68 Q199 [Admiral Jones]

69 Q199 [Admiral Jones]

Extending the service life of the Type 23 frigates

52. The importance of getting a start date for the manufacturing stage for the Type 26 is underscored by the fact that the first out-of-service date for a Type 23 frigate is 2023. In June 2016, Philip Dunne MP, the then Minister for Defence Procurement, confirmed in a reply to Written Parliamentary Question that there were “currently no plans to extend further the out of service dates for the Type 23 frigates”.⁷⁰ Therefore, if the transition from the Type 23 to the Type 26 is to be delivered without any reduction in numbers or capability, the MoD has to ensure that the first Type 26 is delivered in or before 2023.

53. Admiral Jones was alive to this risk and acknowledged that there was little room for manoeuvre in the timetable. He said that while it was “not impossible”,⁷¹ to extend further the out-of-service date of the Type 23s beyond the mid-2020s, it would require “a significant investment” for which there was “no money in the programme”.⁷² John Hudson from BAES agreed that an extension was possible but any decision to do so would require a “cost-benefit trade-off” which was “a matter for the MoD to determine”.⁷³

54. However, in its Report, *Major Projects Report 2015 and the Equipment Plan 2015 to 2025*, the NAO poured cold water on the viability of any further extension to the life of the Type 23 fleet. It stated that there was “no scope” to extend the service life of the Type 23s without “extensive, currently unaffordable modifications”.⁷⁴ Furthermore, the NAO asserted that such an extension would reduce the reliability of the Type 23 with the effect of reducing “endurance and warfighting utility”.⁷⁵

55. The MoD has now signalled that the construction phase of the Type 26 will commence in the summer of 2017. However, that remains subject to “detailed contract negotiations” and further design decisions. The announcement provides no new information on the build schedule for the first Type 26, nor the nature of the production ‘drumbeat’ to follow. **Given the apparent impracticality of extending the service life of the Type 23s, the importance of the Type 26 build schedule cannot be overstated: the replacement of the former by the latter must remain fully synchronised.**

56. As we mention earlier in this Report, the National Shipbuilding Strategy will consider “the potential to build a new complex warship every two years”. This is highly relevant to the Type 26 programme given the out of service dates for the Type 23 class:⁷⁶

70 HC Deb, 27 June 2016, ([39922](#))

71 Q153 [Admiral Jones]

72 Q153 [Admiral Jones]

73 Q104 [Mr Hudson]

74 National Audit Office, *Major Projects Report 2015 and the Equipment Plan 2015 to 2025*, Session 2015–16, HC 488-II

75 National Audit Office, *Major Projects Report 2015 and the Equipment Plan 2015 to 2025*, Session 2015–16, HC 488-II

76 HC Deb, 1 March 2016 ([28004](#))

Type 23 Frigates	Out of Service Date
HMS Argyll	2023
HMS Lancaster	2024
HMS Iron Duke	2025
HMS Monmouth	2026
HMS Montrose	2027
HMS Westminster	2028
HMS Northumberland	2029
HMS Richmond	2030
HMS Somerset	2031
HMS Sutherland	2032
HMS Kent	2033
HMS Portland	2034
HMS St Albans	2035

57. The delivery of the Type 26s to the Royal Navy has to be coordinated with the out of service dates of the Type 23s. The first Type 23 will come out of service in 2023 and the rest of class will follow on an annual basis. This means that one new Type 26 will have to enter service every year from 2023 onwards, if even the current total of 19 frigates and destroyers is to be maintained. Delivering the Type 26 class (and subsequently the GPF) to match that timetable will be challenging. Extending the life of some of the Type 23s to accommodate the construction schedule of the Type 26 is not a cost-effective option and would risk diverting the funds available to the Royal Navy away from the Type 26 programme (or other programmes, such as the GPF and the Carrier programme). The alternative—to decommission Type 23s before they are replaced—would represent a dangerous downgrading of the capabilities of the Royal Navy. Furthermore, it would signify a failure of the Government to honour its promise to maintain a surface fleet of even 19 frigates and destroyers—a figure which, we believe, is already woefully low.

Offshore Patrol Vessels

58. As mentioned earlier in this Report, SDSR 2015 also announced the procurement of a further two Offshore Patrol Vessels (OPVs). One of the ships had been earmarked as a replacement for *HMS Clyde* (an existing OPV) but the role of the other remains undecided. As Admiral Jones explained, options included adding it to “the mix” of existing OPVs operating in UK waters; deploying it “elsewhere in the world” or tasking it as “a second vessel operating in the South Atlantic”.⁷⁷

59. Whilst the procurement of additional vessels is to be welcomed, the construction of the OPVs needs to be considered in the context of the timing of the Type 26 programme. John Hudson, BAES, confirmed that the OPVs would have “some impact” on the commencement of the Type 26 programme and that BAES was currently in discussions with the MoD in order to “understand exactly what programme [the MoD] wish to pursue

77 Q197 [Admiral Jones]

on Type 26”.⁷⁸ According to Jane’s magazine, the announcement of the additional OPVs was “to fill the gap in workload at BAE Systems’ Clyde shipbuilding facilities” and to “provide continuity of shipbuilding work in the short term”.⁷⁹

60. The decision to build the OPVs in advance of the Type 26 also has an impact on the workforce. Duncan McPhee, Manual Convenor (Scotstoun), Unite, told us that while he welcomed the work the additional orders would bring, it should not be seen as a replacement for the delays in the Type 26 programme.⁸⁰ The MoD stated that the contract for the OPVs would be signed “shortly” and that the two vessels will be delivered in 2019, thus “protecting jobs on the Clyde before the start of the Type 26 programme gets fully under way”.⁸¹

61. The MoD has announced that construction of the OPVs will start shortly, with delivery of the vessels due in 2019. Whilst this is a welcome development we remain concerned that this programme has the potential to interfere with, and further delay, the construction of the Type 26. In its Response to our Report, we will expect the MoD to set out in detail, how the construction of the OPVs will be managed so as not to impact on the programme for the construction of the Type 26 frigates.

78 Q37 [Mr Hudson]

79 [IHS Jane’s](#) (23 March 2016)

80 Q128 [Mr McPhee]

81 [MoD press release, 4 November 2016](#)

4 General Purpose Frigate

Introduction

62. As discussed earlier in this Report, the original programme for the Type 26 envisaged 13 ships of the same class, of which eight would be anti-submarine frigates and five general purpose frigates. In SDSR 2015, the Government announced that the five general purpose frigates would no longer come from the Type 26 class but would be developed as a new class of lighter frigate, provisionally known as Type 31.

Design and capabilities

63. The General Purpose Frigate (GPFF) is in its concept phase but concerns have already been raised about a potential downgrading of its capabilities, and its role in the Royal Navy's fleet has been questioned. Speaking to IHS Jane's in early 2015, Admiral Sir George Zambellas, the then First Sea Lord, was unequivocal in his belief that the high-end capability envisaged for the Type 26 frigates should not be downgraded for the GPFF:

One of the siren calls I completely resist is to try and produce something that is not a credible platform, something that is smaller, cheaper, and less effective.

He further argued:

The other thing is you don't have less credible platforms trying to protect major assets, nor do you try to put them into partnership with senior alliance partners. So if you're protecting an American carrier or a French carrier it's got to be credible. If you're doing air defence, it's got to be credible. And if you're doing anti-submarine warfare, it's got to be credible.⁸²

64. The Secretary of State wrote to us stating that the GPFF programme was in its concept phase, and that "a range of capability requirements" were being considered. That work would cover "the ship's role, operating environment and the likely threats it will face".⁸³ In response to a Written Parliamentary Question, Harriett Baldwin MP explained that this work was "in the very early stages" and therefore it was too soon to set in any detail the build strategy for the ship.⁸⁴

65. In oral evidence Admiral Jones, the current First Sea Lord, explained the general thinking which underpinned the GPFF. He said that it would operate at "a slightly lower end of Royal Navy operations" but that it would still be able to operate globally as a reliable, dependable and independent frigate.⁸⁵ However, he acknowledged that GPFF would be a "much less high-end ship" than the Type 26.⁸⁶

82 [IHS Janes](#) (4 March 2015)

83 Ministry of Defence ([RNT0003](#))

84 HC Deb, 7 September 2016, ([43692](#))

85 Q196 [Admiral Jones]

86 Q149 [Admiral Jones]

66. Within these parameters, Admiral Jones emphasised that the GPFF would be a “complex warship” with the capability to “protect and defend and to exert influence around the world”.⁸⁷ However, as a recent House of Commons Library Paper highlighted, the MoD’s definition of a “complex warship” is open to interpretation:

A warship is generally defined as a surface ship or submarine armed and equipped for military use. In the context of warships, the word “complex” is used commonly as a relative rather than an absolute, defined term. It enables us to differentiate between vessels across a broad spectrum of capability depending on their size, form, function and scale of integration between the on-board systems required to fulfil their role.⁸⁸

67. Neither Lord West nor Sir Mark Stanhope was convinced that the GPFF would deliver the capabilities required by the Royal Navy. Lord West described the GPFF as “jam tomorrow” and saw the development of a less capable ship as being a retrograde step:

In the Falklands war, *HMS Exeter* was doing drug patrols in the Caribbean. She sailed straight to the South Atlantic and killed more Argentinian aircraft with her Sea Dart than any other ship there. That was the high-end capability, and we will have lost that.⁸⁹

68. Sir Mark Stanhope agreed and highlighted anti-submarine warfare (ASW) and close range sonar as two capabilities which he believed would be absent. He said that:

Modern day ASW is about silent platforms. Silent platforms cost and, quite clearly, in cost terms, the general purpose frigate will be nothing like that”.⁹⁰

69. In response, Admiral Jones asserted that the GPFF frigates would “not only fill in the gaps but do more”.⁹¹ He also highlighted the fact that “at the heart of the SDSR” was the ambition to increase the size of the Royal Navy and explained that the National Shipbuilding Strategy should allow the Royal Navy to “start growing in its destroyer and frigate numbers in the 2030s”.⁹²

Potential for export

70. The SDSR made clear that a key aspect of the design and development of the GPFF would be to build a warship which could be successful in the export market. In answer to a Written Parliamentary Question, Harriett Baldwin MP stated that the National Shipbuilding Strategy would consider “how to balance the GPFF requirement against export opportunities and industrial capacity”.⁹³ Admiral Jones confirmed to us that the trade-off therefore required the development of a frigate which would be at “a slightly lower end of Royal Navy operations” in order to make it an attractive proposition for a “much wider set of our international partners” and help the UK to re-enter the world

87 Q149 [Admiral Jones]

88 The Royal Navy’s new frigates and the National Shipbuilding Strategy, Briefing Paper [No. 7737](#), House of Commons Library, October 2016

89 Q3 [Lord West]

90 Q3 [Sir Mark Stanhope]

91 Q178 [Admiral Jones]

92 Q168 [Admiral Jones]

93 HC Deb, 7 September 2016 ([43692](#))

of “very credible and effective surface ship exports”.⁹⁴ That said, Admiral Jones did not underestimate the difficulties in designing a frigate with both the capabilities required by the Royal Navy and export potential:

Very many [other countries] are in the game for general purpose frigates that have an ocean-going, deployable, sustainable capability, and that can conduct maritime security operations, [but] are not going to get into the game of high-end protection of a carrier strike group or a deterrent submarine.⁹⁵

71. This difficulty is not new. PA Consulting, in its recent paper *Developing a sustainable export market for UK defence*, highlighted the challenge facing the UK in developing its export market:

Despite the UK being the world’s second largest defence exporter after the US (with sales of over £56 billion in the last ten years), it is difficult to identify a UK-developed platform in recent decades that has sold to a number of countries. Much of the commercial export success is attributable to one-off, albeit substantial, Tornado and Typhoon sales to the Kingdom of Saudi Arabia. Fundamentally, many UK-built products (for example Type 45 destroyers) are so specific to UK requirements that they are not suitable for export.⁹⁶

Furthermore, the export market for a new generation of frigates is already a crowded one, with several larger European states already building frigates, such as the Franco-Italian FREMM Frigate already being built for export.

72. *The production of the GPFF must be aligned so that it fits seamlessly into the Type 23 replacement programme both in terms of timing but more importantly in terms of capability. We recommend that the MoD sets out how the construction timetable for the GPFF will dovetail with that of the Type 26. We will also expect more detail on how the MoD will fund and deliver on its aspiration to increase frigate numbers by the 2030s.*

73. *The GPFF has the potential to provide the Royal Navy with a modern, flexible frigate. It also offers the UK the opportunity to re-enter the highly valuable export market for warships. However, there is a balance to be struck between these two ambitions. On the one hand, the GPFF must be designed to provide the Royal Navy with the capabilities it requires. Yet, on the other hand, it may be that modular design of a “template” warship, will enable a greater number of basic hulls to enter service, with additional “plug and play” capacity being added incrementally at later stages. We recommend that the MoD should set out the minimum capabilities required of the GPFF and how they differ from those Type 23s which they will replace.*

74. *In addition, it is vital to know which European examples, whether it be the French Aquitaine-class, or the Danish Absalon-class frigates, the MoD has considered as being suitable templates for the GPFF.*

94 Q168 [Admiral Jones]

95 Q196 [Admiral Jones]

96 PA Consulting, [Developing a sustainable export market for UK Defence](#)

5 Type 45 Destroyer

Introduction

75. The Type 45 destroyer is the most modern ship in the British Fleet and a key part of its innovative design was its propulsion system. However, shortly after its introduction into service, the propulsion system developed serious problems. Between the launch of the first of class (*HMS Daring*) in February 2006 and the final Type 45 launch (*HMS Duncan*) in October 2010, approximately 50 design changes were necessary. Despite that remedial work the Type 45s continue to suffer from reliability issues including major power failures.⁹⁷ There have been improvements and the current failure rates are now one-third of those experienced in 2010.⁹⁸ However, as Sir Mark Stanhope noted, there remains a “risk inherent” in using the Type 45.⁹⁹

The Engine and the WR21 component

76. In 2000, the MoD selected an Integrated Full Electric Propulsion (IFEP) system for the Type 45. At the heart of that propulsion system was the WR-21, a combined Rolls-Royce Gas Turbine engine and associated recuperation system. The two work together to “deliver efficient power generation over a wide range of demand, not least by using an intercooler to cool the air that flows through the engine before combustion occurs”.¹⁰⁰

77. This system represented “a significant advance” in propulsion design, offering the potential for greater fuel efficiency, greater operational flexibility, as well as long-term savings in maintenance and personnel costs.¹⁰¹ However, the Type 45 was the first class of warships to use this new propulsion system, and therefore the engine came with a greater degree of risk than the alternative, General Electric’s LM 2500 engine.¹⁰² The increased risk was acknowledged by the then Secretary of State, Rt Hon Geoff Hoon, when he signed the contract.¹⁰³

78. Peter Roberts, from RUSI, described opting for this innovative approach as “a flawed decision” because he believed that the design did not address either the “high-power densities” or the “differences in load” that the warships required.¹⁰⁴ He contrasted this with the General Electric LM 2500, which he described as “cheaper” and which had a “lower technical risk and more proven background”.¹⁰⁵

79. By contrast, both of the former First Sea Lords who came before us claimed that the benefits of using an innovative engine outweighed the risks. Sir Mark Stanhope, First Sea Lord between 2009 and 2013, described the choice of engine as “a sensible way of improving maintenance requirements, fuel usage and survivability” which, he asserted,

97 [BBC News, 29 January 2016](#)

98 [Ministry of Defence, \(RNT0002\)](#)

99 Q26 [Sir Mark Stanhope]

100 [Ministry of Defence, \(RNT0002\)](#)

101 [Ministry of Defence, \(RNT0002\)](#)

102 [Ministry of Defence, \(RNT0002\)](#)

103 [Ministry of Defence, \(RNT0002\)](#)

104 Q24 [Mr Roberts]

105 Q29 [Mr Roberts]

had ensured that the UK “remained ahead of the curve in terms of the capability of our future ships”.¹⁰⁶ Admiral Lord West agreed stating that he had “no doubt at all that going for integrated electrical propulsion was the right thing to do”.¹⁰⁷

Engine Testing

80. It became clear during our evidence sessions that the testing programme for the engine was inadequate both in terms of facilities and duration. John Hudson, BAES, conceded that the test facilities “did not exactly replicate the situations on the ship” and therefore the testing “failed to expose some of the issues that became exposed when the ships entered service”.¹⁰⁸

81. Of greater concern was the length of testing. Peter Roberts said that the land-based testing was not funded “to run sufficient hours to understand that there were significant design flaws”.¹⁰⁹ John Hudson also acknowledged that the testing “was not run sufficiently long enough to demonstrate that the engine was reliable”.¹¹⁰

82. Tomas Leahy, from Rolls Royce, explained that the WR-21 gas turbine, had undergone over 8,000 hours of testing during the development cycle. However, there was a change in the design (to the recuperator) after about 5,000 hours which resulted in the updated design being subject to only 3,000 hours of testing. The resultant problems experienced by the Type 45s came between 4,000 and 5,000 hours of use.¹¹¹ He conceded that, with hindsight, the amount of testing was insufficient,¹¹² but said that the MoD “decreed” that the remaining testing hours would be sufficient “given all the running that had been previously done”.¹¹³

83. It is clear to us that the under-testing of the engine was a key cause of the problems experienced by the Type 45s when they came into service. This is a serious failing of both the MoD and of the contractors. The MoD did not explain satisfactorily why there was no adequate clause in the contract with Rolls Royce specifying responsibility for repairs should the engines develop any further design faults because of the lack of testing time. In its response, we will expect a detailed explanation of why the testing period was truncated alongside a clear statement of how we can be reassured that this will not be able to happen in the future.

Working in high ambient temperatures

84. A second issue with the engine was a loss of reliability when the Type 45s operated in areas with high ambient air and sea temperature. When we questioned Tomas Leahy, Rolls Royce, on how this came to be, he told us that the engine “met the specification for the Type 45 class [set by the MoD] and that the system met that specification”.¹¹⁴ However, he added:

106 Q24 [Sir Mark Stanhope]

107 Q24 [Lord West]

108 Q61 [Mr Hudson]

109 Q31 [Mr Roberts]

110 Q61 [Mr Hudson]

111 Q67 [Mr Leahy]

112 Q65 [Mr Leahy]

113 Q67 [Mr Leahy]

114 Q90 [Mr Leahy]

Are the conditions experienced in the Gulf in line with that specification?
No, they are not. The equipment is having to operate in far more arduous conditions than were initially required by that specification.¹¹⁵

Given that the Royal Navy has undertaken significant operations in the Gulf for decades, this appears to be a startling error.

85. John Hudson, BAES, said that industry had highlighted to the MoD that there would be an upper limit for environmental temperatures and they had sought to produce a design that would have “graceful (sic) degradation beyond those temperatures”.¹¹⁶ In other words, the engine would have the ability to carry on and operate, albeit sub-optimally, which would result in “a bit of drop-off” in terms of top speed.¹¹⁷ However, that was not the outcome. Admiral Jones acknowledged that a key failing in the specification was that the WR-21 was unable to operate effectively in hot temperatures and that, instead of a “graceful degradation”, the engines were “degrading catastrophically”.¹¹⁸

86. It is astonishing that the specification for the Type 45 did not include the requirement for the ships to operate at full capacity—and for sustained periods—in hot regions such as the Gulf. The UK’s enduring presence in the Gulf should have made it a key requirement for the engines. The fact that it was not was an inexcusable failing and one which must not be repeated in the Type 26 and GPFF programmes. Failure to guarantee this would put the personnel and ships of the Royal Navy in danger, with potentially dangerous consequences.

The refit programme

87. In 2014, the MoD established Project Napier to address the continuing problems with the Type 45s. According to the MoD, Project Napier has two strands:

- Equipment Improvement Plan (EIP) which will address system reliability to meet the original design intent in the near term; and
- Power Improvement Plan (PIP) which will improve system resilience by adding upgraded diesel generators to provide the electrical generation capacity.¹¹⁹

The PIP should also resolve the problem of the engine “degrading catastrophically” in hot weather conditions.¹²⁰

88. In his letter to us, the Secretary of State said that work on the Equipment Improvement Plan was progressing and that it was already “delivering positive results with increases to availability [of the Type 45] across the Fleet”.¹²¹ Feasibility studies for the Power Improvement Plan had been concluded and the MoD was now working with four

115 Q90 [Mr Leahy]

116 Q92 [Mr Hudson]

117 Q96 [Mr Tyler]

118 Q189 [Admiral Jones]

119 Ministry of Defence, ([RNT0002](#))

120 Q189 [Admiral Jones]

121 Ministry of Defence, ([RNT0002](#))

companies to “assess alternative technical options and a variety of delivery models”.¹²² The PIP Assessment Phase will be launched later in 2016. The costs and scheduling for refitting the Type 45s would be determined once the final design solution has been selected.¹²³

89. Admiral Jones explained that the introduction of two additional generators would reduce the reliance on the WR-21, resulting in “greater resilience and greater life out of the WR-21s and a more effective ship”.¹²⁴ When he came before us, Tony Douglas of DE&S confirmed that Project Napier had now “defined what that modification solution looks like”,¹²⁵ and confirmed that implementing the PIP would take around 12 months.¹²⁶ However, he explained that this work would be incorporated into the planned maintenance for the ships:

We can do these in parallel with the maintenance periods. While there will be some additional out-of-service time for Type 45, it will not be of the order of 12 months.¹²⁷

Cost of the refit

90. The cost of the Power Improvement Plan will be borne by the MoD alone, and not in concert with industry. Defence Procurement Minister Harriett Baldwin MP explained that this was because there were “a set of specifications against which a shipbuilder is liable” but that the MoD was liable “if problems arose subsequently”.¹²⁸ This was confirmed by Tony Douglas who told us that “contractually, from the original position, all liabilities and warranties are not connected to the modification package that has now been designed”.¹²⁹

91. According to the Minister, SDSR 2015 has earmarked £280 million to the project¹³⁰ and that it was “broken out as a specific line item” within the budget allocated to Royal Navy Command.¹³¹ Unfortunately, there is no reference to this in SDSR 2015. We therefore remain concerned that this funding could impact on the funding of other Royal Navy projects.

92. Mr Leahy from Rolls Royce said that he was not aware of any impact on other programmes but cautioned that he had no “visibility” on the matter.¹³² Dr Andrew Tyler, Chief Executive Europe, Northrop Grumman, took a similar position but commented that the MoD was “consummate at veering and hauling its resources to meet different events that occur” and believed this to be the case for the funding of the Type 45 refit.¹³³ Tony Douglas sought to reassure us that the funding for the PIP was separate from the Type 26 programme,¹³⁴ and that no money had been transferred to it either from the SDSR 2015 or from elsewhere.¹³⁵

122 Ministry of Defence, ([RNT0002](#))

123 Ministry of Defence, ([RNT0002](#))

124 Q189 [Admiral Jones]

125 Q181 [Mr Douglas]

126 Q102 [Mr Hudson]

127 Q103 [Mr Hudson]

128 Q186 [Harriett Baldwin MP]

129 Q186 [Mr Douglas]

130 Q181 [Harriett Baldwin MP]

131 Q184 [Harriett Baldwin MP]

132 Q100 [Mr Leahy]

133 Q100 [Mr Tyler]

134 Q181 [Mr Douglas]

135 Q182 and Q183 [Mr Douglas]

93. The Type 45 has had a long history of significant engine failures. The MoD's Power Improvement Plan is designed to rectify these problems and put an end to the reliability issues which continue to limit the availability and dependability of the Type 45. The MoD has assured us that there are sufficient funds available for the refit programme. However, it has yet to set a start date. *In its response, we expect the Government to set out, in detail, the costings of this programme and a timeline for the refit across the class of ships. Furthermore, we recommend the MoD provide us with six-monthly progress reports on the programme.*

94. *In addition, the MoD must provide a detailed explanation of how the funds for the refit were sourced and identified as part of the SDSR process—in particular, whether these funds were a separate addition to the Royal Navy's equipment budget or were allocated from within it. As part of that explanation, we will require confirmation that no funds were transferred to the Type 45 from funding originally allocated to the Type 26 programme.*

6 Conclusion

95. The MoD is embarking on a major modernisation of the Royal Navy surface fleet. Notwithstanding the Committee's concerns that the number of ships is at a dangerous and an historic low, it is a programme which has the potential to deliver a modern navy with a broad range of capabilities, especially if the GPF design proves versatile and sufficiently economical to increase the number of frigates in the Fleet. However, there are serious concerns about the funding available for the programme and the timetable to which the MoD is working. The delay to the construction of the Type 26 has had a negative impact on the skills of the shipbuilding workforce. If this situation is allowed to continue, it risks undermining the ability of the shipbuilding industry to deliver the Type 26s to the necessary timetable. The MoD must also demonstrate that it has learnt from the extraordinary mistakes in the design of the Type 45.

96. The introduction of the Type 26 represents only part of the modernisation of the Royal Navy's frigates. Five of its existing Type 23 frigates will need to be replaced by the new General Purpose Frigate, the design of which is only in its infancy. The MoD must not allow this programme to experience the delays to previous Royal Navy procurement programmes. It also has to ensure that the General Purpose Frigate provides the Royal Navy with the capabilities it requires and is not a less capable ship which is there merely to meet the Government's commitment to 19 frigates and destroyers, and possibly to be suitable for export. Modular design and "plug and play" incremental acquisition could and should enable this to be achieved. Hulls can be designed and constructed to enable an increase in the number of platforms and subsequent augmentation of their equipment. Furthermore, the refit programme and associated costs for the Type 45 must not result in further delays to the frigate programmes.

97. The National Shipbuilding Strategy offers the MoD the opportunity to put its plans for the modernisation of the frigate fleet back on track. For this to happen, the MoD has to ensure that the Strategy includes a timed production schedule for the delivery of both the Type 26 and GPF, in close co-ordination with the withdrawal from service of the Type 23s, and that both programmes are fully funded to proceed to that timetable.

98. At 19 ships, the Royal Navy's frigate and destroyer fleet is at a dangerous and an historic low. By giving a commitment to build "at least" five General Purpose Frigates, the SDSR implicitly acknowledged the need to increase this woefully inadequate total. The Government has now set itself a target date for the start of construction of Type 26. It now has to demonstrate that it can deliver these ships, and the GPF/Type 31 frigates to the timetable set by the out-of-service timetable for the Type 23s. If the MoD does not, it will put at even greater risk our frigate numbers and the capabilities they provide. The SDSR 2015 undertook to modernise the Royal Navy, it is now time for the MoD to deliver on its promises.

Conclusions and recommendations

Introduction

1. As an island nation, the importance of the Royal Navy to UK defence must not be underestimated. Our starting point in this Report is our conviction that the current number of frigates, destroyers and personnel inadequately reflects the potential threats and vulnerabilities facing the UK and its interests overseas. (Paragraph 11)

National Shipbuilding Strategy

2. We look forward to the announcement of the National Shipbuilding Strategy, which has the potential to deliver a more coherent and timely production line of ships for the Royal Navy. However, if that potential is to be realised, the Strategy must include strict timelines for the delivery of the new Type 26 class of frigates and an indicative timeframe for the General Purpose Frigate. Without this information, the National Shipbuilding Strategy will offer little more than aspirations for the future of the Royal Navy. (Paragraph 17)
3. *We recommend that the National Shipbuilding Strategy sets out a detailed timeline for the delivery of the Type 26 frigates and the General Purpose Frigates alongside a clear description of how success will be measured in the coming years. We will expect the Strategy also to include a comprehensive assessment of the potential to build a new complex warship every two years, as well as a detailed schedule showing how each new frigate will arrive as each Type 23 frigate is withdrawn from service with the Fleet, so that no further reduction occurs in its already insufficient warship numbers.* (Paragraph 18)
4. *Furthermore, we expect the Strategy to set out the criteria against which the expansion of the UK's share of the export market in warships will be judged.* (Paragraph 19)
5. It is clear to us that the delays in the construction of the Type 26 have had a negative impact on the development of the workforce on the Clyde. Apprenticeships are not being offered at the necessary rate, and those currently undertaking apprenticeships are having their skills training disrupted. Furthermore, workers are being required to move from Scotland to Barrow in order for them to undertake meaningful work. We welcome the efforts made by the trades unions and BAES to retain the workforce during this period of uncertainty, but remain deeply concerned by warnings that further delay could be “catastrophic” for the skills base. (Paragraph 24)
6. *The Government must, as a matter of priority, ensure that the UK retains the specialist skills necessary to deliver the National Shipbuilding Strategy. It can do this only if the National Shipbuilding Strategy provides a programme of work on which industry and the workforce can rely. This must include a timetable for both the Type 26 and the GPF. If the UK is not building sufficient ships, the skills base will be depleted with long-term impacts on both our national security and the UK's defence industrial infrastructure. To ensure the future skills required for ship building it is essential that the Government does more to protect and secure the apprenticeship programme.*

The Government must set out in the National Shipbuilding Strategy, the numbers of apprenticeships required in each of the key trades and how it will monitor them to ensure there are no longer-term skills gaps. (Paragraph 25)

Type 26 Global Combat Ship

7. The Type 26 programme has seen a significant extension to its timetable with a thirteen month extension to the Assessment phase followed by an additional fifteen months to the Demonstration phase. (Paragraph 30)
8. The MoD's announcement that the construction phase of the Type 26 will start in the summer of 2017 belatedly represents a step forward, but it raises as many questions as it attempts to answer. We are concerned at an apparent degree of complacency and lack of urgency on the part of the MoD and DE&S. The start date remains contingent on a successful conclusion to the negotiations between the MoD and BAES on both the design and the contract. Furthermore, even with a 2017 start date, the Type 26 programme will not be "fully underway" until 2019. If we are to have confidence that the Type 26 programme is back on track, the MoD must provide us with a detailed assessment of those design and contract issues which remain outstanding, the build programme for the Type 26 and the rate of output of the ships. (Paragraph 35)
9. The SDSR was announced alongside an increased Defence Equipment Budget, which the Government asserted would provide sufficient funding for the programmes contained within it. We are deeply disappointed that, only 12 months later, a key programme for the modernisation of the Royal Navy appears to be under severe financial pressure. If the SDSR is to be more than a collection of aspirations, it has to be fully funded. As we warned in our Report on the Government's commitment to spend barely 2% of GDP on defence, the current funding settlement may not be enough. (Paragraph 42)
10. *In its response to our Report, we will expect the Government to provide a clear timeline—with costings at each stage—for the Type 26 programme. In doing so we will also expect to receive clear statements that the necessary funds are available in this financial year and for subsequent financial years alongside details on the amounts spent on the programme as it progresses. Above all, we seek an absolute assurance that short-term financial limitations are not storing up for the future, large cost consequences caused by otherwise avoidable delays in the Type 26 construction programme. (Paragraph 43)*
11. The MoD's announcement of a summer 2017 start date for the Construction Phase for the Type 26 relies on a successful conclusion to negotiations on both the contract and the design of the ship. Should these not be concluded in time for construction to start in summer 2017, further delays will occur, inevitably increasing the overall cost of the Type 26 programme. Such additional costs would result in increased pressure on a Royal Navy budget which is already being squeezed. Furthermore, the pace of construction phase must not be dictated by the financial constraints of the MoD. The use of artificial delays to the programme as a way of managing an over-stretched budget would serve only to increase costs and to undermine further the UK's already severely depleted surface fleet. (Paragraph 47)

12. We do not underestimate the importance of value for money to the taxpayer. However, this should not be to the detriment of the capabilities needed by the Royal Navy. With the surface fleet already smaller than ever before, the priority must be to deliver the Type 26 programme in an expeditious manner. Slowing the pace of the programme just to squeeze out a marginally better deal will not deliver a much-needed capability, and will serve only to increase costs further down the line, especially if the promised infrastructure investment is not forthcoming. (Paragraph 48)
13. There is a history of poor value for money caused by moving start dates being moved to the right and repeated delays in commencing construction. The MoD does not seem to learn from past mistakes and mismanagement of budgets through built-in delays. (Paragraph 49)
14. The procurement of new equipment for the first Type 26 frigates has the potential to smooth the transfer of existing Type 23 equipment to the later Type 26 frigates. *In its response, we recommend that the MoD provide further detail on the progress it has made on the manufacture and purchase of that equipment and the expected date of its completion.* (Paragraph 51)
15. Given the apparent impracticality of extending the service life of the Type 23s, the importance of the Type 26 build schedule cannot be overstated: the replacement of the former by the latter must remain fully synchronised. (Paragraph 55)
16. The delivery of the Type 26s to the Royal Navy has to be coordinated with the out of service dates of the Type 23s. The first Type 23 will come out of service in 2023 and the rest of class will follow on an annual basis. This means that one new Type 26 will have to enter service every year from 2023 onwards, if even the current total of 19 frigates and destroyers is to be maintained. Delivering the Type 26 class (and subsequently the GPFF) to match that timetable will be challenging. Extending the life of some of the Type 23s to accommodate the construction schedule of the Type 26 is not a cost-effective option and would risk diverting the funds available to the Royal Navy away from the Type 26 programme (or other programmes, such as the GPFF and the Carrier programme). The alternative—to decommission Type 23s before they are replaced—would represent a dangerous downgrading of the capabilities of the Royal Navy. Furthermore, it would signify a failure of the Government to honour its promise to maintain a surface fleet of even 19 frigates and destroyers—a figure which, we believe, is already woefully low. (Paragraph 57)
17. *The MoD has announced that construction of the OPVs will start shortly, with delivery of the vessels due in 2019. Whilst this is a welcome development we remain concerned that this programme has the potential to interfere with, and further delay, the construction of the Type 26. In its Response to our Report, we will expect the MoD to set out in detail, how the construction of the OPVs will be managed so as not to impact on the programme for the construction of the Type 26 frigates.* (Paragraph 61)

General Purpose Frigate

18. *The production of the GPFf must be aligned so that it fits seamlessly into the Type 23 replacement programme both in terms of timing but more importantly in terms of capability. We recommend that the MoD sets out how the construction timetable for the GPFf will dovetail with that of the Type 26. We will also expect more detail on how the MoD will fund and deliver on its aspiration to increase frigate numbers by the 2030s. (Paragraph 72)*
19. The GPFf has the potential to provide the Royal Navy with a modern, flexible frigate. It also offers the UK the opportunity to re-enter the highly valuable export market for warships. However, there is a balance to be struck between these two ambitions. On the one hand, the GPFf must be designed to provide the Royal Navy with the capabilities it requires. Yet, on the other hand, it may be that modular design of a “template” warship, will enable a greater number of basic hulls to enter service, with additional “plug and play” capacity being added incrementally at later stages. (Paragraph 73)
20. *We recommend that the MoD should set out the minimum capabilities required of the GPFf and how they differ from those Type 23s which they will replace. (Paragraph 73)*
21. In addition, it is vital to know which European examples, whether it be the French Aquitaine-class, or the Danish Absalon-class frigates, the MoD has considered as being suitable templates for the GPFf. (Paragraph 74)

Type 45 Destroyer

22. It is clear to us that the under-testing of the engine was a key cause of the problems experienced by the Type 45s when they came into service. This is a serious failing of both the MoD and of the contractors. The MoD did not explain satisfactorily why there was no adequate clause in the contract with Rolls Royce specifying responsibility for repairs should the engines develop any further design faults because of the lack of testing time. In its response, we will expect a detailed explanation of why the testing period was truncated alongside a clear statement of how we can be reassured that this will not be able to happen in the future. (Paragraph 83)
23. It is astonishing that the specification for the Type 45 did not include the requirement for the ships to operate at full capacity—and for sustained periods—in hot regions such as the Gulf. The UK’s enduring presence in the Gulf should have made it a key requirement for the engines. The fact that it was not was an inexcusable failing and one which must not be repeated in the Type 26 and GPFf programmes. Failure to guarantee this would put the personnel and ships of the Royal Navy in danger, with potentially dangerous consequences. (Paragraph 86)
24. The Type 45 has had a long history of significant engine failures. The MoD’s Power Improvement Plan is designed to rectify these problems and put an end to the reliability issues which continue to limit the availability and dependability of the Type 45. The MoD has assured us that there are sufficient funds available for the refit programme. However, it has yet to set a start date. (Paragraph 93)

25. *In its response, we expect the Government to set out, in detail, the costings of this programme and a timeline for the refit across the class of ships. Furthermore, we recommend the MoD provide us with six-monthly progress reports on the programme.* (Paragraph 93)
26. *In addition, the MoD must provide a detailed explanation of how the funds for the refit were sourced and identified as part of the SDSR process—in particular, whether these funds were a separate addition to the Royal Navy’s equipment budget or were allocated from within it. As part of that explanation, we will require confirmation that no funds were transferred to the Type 45 from funding originally allocated to the Type 26 programme.* (Paragraph 94)

Conclusion

27. The MoD is embarking on a major modernisation of the Royal Navy surface fleet. Notwithstanding the Committee’s concerns that the number of ships is at a dangerous and an historic low, it is a programme which has the potential to deliver a modern navy with a broad range of capabilities, especially if the GPFF design proves versatile and sufficiently economical to increase the number of frigates in the Fleet. However, there are serious concerns about the funding available for the programme and the timetable to which the MoD is working. The delay to the construction of the Type 26 has had a negative impact on the skills of the shipbuilding workforce. If this situation is allowed to continue, it risks undermining the ability of the shipbuilding industry to deliver the Type 26s to the necessary timetable. The MoD must also demonstrate that it has learnt from the extraordinary mistakes in the design of the Type 45. (Paragraph 95)
28. The introduction of the Type 26 represents only part of the modernisation of the Royal Navy’s frigates. Five of its existing Type 23 frigates will need to be replaced by the new General Purpose Frigate, the design of which is only in its infancy. The MoD must not allow this programme to experience the delays to previous Royal Navy procurement programmes. It also has to ensure that the General Purpose Frigate provides the Royal Navy with the capabilities it requires and is not a less capable ship which is there merely to meet the Government’s commitment to 19 frigates and destroyers, and possibly to be suitable for export. Modular design and “plug and play” incremental acquisition could and should enable this to be achieved. Hulls can be designed and constructed to enable an increase in the number of platforms and subsequent augmentation of their equipment. Furthermore, the refit programme and associated costs for the Type 45 must not result in further delays to the frigate programmes. (Paragraph 96)
29. The National Shipbuilding Strategy offers the MoD the opportunity to put its plans for the modernisation of the frigate fleet back on track. For this to happen, the MoD has to ensure that the Strategy includes a timed production schedule for the delivery of both the Type 26 and GPFF, in close co-ordination with the withdrawal from service of the Type 23s, and that both programmes are fully funded to proceed to that timetable. (Paragraph 97)

30. At 19 ships, the Royal Navy's frigate and destroyer fleet is at a dangerous and an historic low. By giving a commitment to build "at least" five General Purpose Frigates, the SDSR implicitly acknowledged the need to increase this woefully inadequate total. The Government has now set itself a target date for the start of construction of Type 26. It now has to demonstrate that it can deliver these ships, and the GPF/Type 31 frigates to the timetable set by the out-of-service timetable for the Type 23s. If the MoD does not, it will put at even greater risk our frigate numbers and the capabilities they provide. The SDSR 2015 undertook to modernise the Royal Navy, it is now time for the MoD to deliver on its promises. (Paragraph 98)

Appendix 1: Numbers of ships in the surface fleet

Year	Aircraft Carriers	Assault ships/ Landing Platform	Frigates	Destroyers	Cruisers	Patrol ships and craft	Mine countermeasures vessels
1975	3	2	60	10	2	14	43
1980	3	2	53	13	1	22	36
1985	4	2	41	15	0	32	45
1990	3	2	35	14	0	34	41
1991	3	2	35	13	0	30	37
1992	3	2	32	12	0	25	34
1993	3	2	28	12	0	25	35
1994	3	2	25	12	0	34	18
1995	3	2	23	12	0	32	18
1996	3	2	24	12	0	32	18
1997	3	2	23	12	0	34	19
1998	3	2	23	12	0	28	19
1999	3	3	23	12	0	24	20
2000	3	3	21	11	0	23	21
2001	3	3	21	11	0	23	23
2002	3	1	21	11	0	23	22
2003	3	1	20	11	0	22	22
2004	3	2	20	11	0	26	19
2005	3	3	19	9	0	26	16
2006	2	3	17	8	0	22	16
2007	2	3	17	8	0	22	16
2008	2	3	17	8	0	22	16
2009	2	3	17	7	0	22	16
2010	2	3	17	6	0	22	16
2011	0	4	15	6	0	22	15
2012	0	4	13	5	0	22	15
2013	0	4	13	6	0	22	15
2014	0	4	13	6	0	22	15
2015	0	4	13	6	0	22	15
2016	0	3	13	6	0	22	15

Source: [Defence Statistics](#)

[Note: The term Assault ship was renamed Landing platform during the 2000s.]

Appendix 2: Naval Strengths

	UK	US	Russia	China	France	Germany	Italy	Spain
Aircraft carriers	0	10	1	1	1	0	1	0
Cruisers	0	22	6	0	0	0	0	0
Destroyers	6	62	18	19	11	7	8	5
Frigates	13	4	10	54	11	8	10	6
Patrol and coastal combatants	22	57	89	199+	20	6	19	0
Mine warfare/ Mine countermeasures	16	11	45	49	18	34	10	0
Principal amphibious ships	3	30	19i	3	3	2ii	4	3
Logistics and support	10	71	625	171	145	53	106	2

Source: [Military Balance](#) 2016

[Notes (i) Described as landing ships (ii) Described as amphibious craft]

Appendix 3: Standing commitments for the Royal Navy

Royal Navy Standing Commitments (also known as Fixed and Baseload Tasks)

UK and Home Waters Activity	
(1) Continuous At Sea Deterrent (CASD)	The Continuous At Sea Deterrent (or Nuclear Deterrent) is provided by the Royal Navy's four Vanguard-class submarines which deploy on a continuous basis around the globe.
(2) Fleet Ready Escort (FRE)/ Towed Array Patrol Ship (TAPS)	The FRE/TAPS is a single frigate maintained at high-readiness in home waters, ready to react when required in support of homeland defence. This activity can include reactive anti-submarine patrol duties in support of the strategic nuclear deterrent.
(3) Marine Enforcement	In addition to assisting in the protection of the British fishing industry, the Fishery Protection Squadron also provides security to the oil and gas fields in the North Sea and other duties in the United Kingdom's Exclusive Economic Zone. It consists of three Offshore Patrol Vessels: HMS TYNE, HMS SEVERN and HMS MERSEY.
(4) Mine Counter Measures (MCM) Support	Two MCM vessels are held in the UK at high readiness to ensure emergent issues in homeland waters, such as the discovery of unexploded ordnance, can be dealt with accordingly.
Overseas Activity	
(5) Antarctic Patrol	Antarctic Patrol is undertaken by the Royal Navy's Ice Patrol Ship, HMS PROTECTOR, in the South Atlantic Ocean. Her primary mission is to survey and gather data on the seas around Antarctica, as well as provide support to the British Antarctic Survey operation stationed in and around the British Antarctic Territory. Two Royal Research Ships of the Merchant Navy are also stationed in the region.
(6) Atlantic Patrol Tasking North (APT (N))	APT(N) is the Royal Navy's commitment to secure and protect the interests of Great Britain and her Overseas Territories in the regions of the North Atlantic and the Caribbean. The deployment also conducts counter narcotics missions and provides humanitarian assistance during the hurricane season. The task is typically carried out by either an Offshore Patrol Vessel (OPV) or Royal Fleet Auxiliary (RFA).
(7) Atlantic Patrol Tasking South (APT (S))	The Royal Navy maintains a regular presence in the South Atlantic and West Africa to provide reassurance to British interests, such as the sovereignty of the Falkland Islands and South Georgia, while also supporting British Forces South Atlantic Islands. The commitment can be fulfilled by a frigate, destroyer or RFA vessel.

(8) Falkland Islands Patrol Task	The Falkland Islands Patrol Task consists of a single warship (an OPV) stationed around the Exclusive Economic Zone of the Falkland Islands. It forms part of British Forces South Atlantic Islands and aims to reassure the inhabitants of the region and maintain British sovereignty. HMS CLYDE is the current unit undertaking this task and uses the deep water naval base facilities of Mare Harbour, East Falkland.
(9) Gibraltar Squadron	The Gibraltar Squadron consists of two fast patrol boats; HMS SCIMITAR and HMS SABRE. They provide force protection for NATO or coalition warships entering the naval facilities of Gibraltar and conduct maritime security in the surrounding British territorial waters.
(10) Joint Expeditionary Force (Maritime)	The Joint Expeditionary Force (Maritime) (JEF (M)) is the Royal Navy's contribution to the UK's joint task force maintained at high-readiness and available at short notice to respond to unexpected global events. In addition to war-fighting or amphibious operations, the JEF (M) can undertake a diverse range of activities such as evacuation operations, disaster relief or humanitarian aid. The composition of the task group changes depending on its task and the range of available assets. However, it generally consists of several large amphibious warfare ships (both RN and RFA), guided-missile destroyers, frigates, replenishment ships from the RFA and sometimes a nuclear-powered fleet submarine.
(11) Gulf	<p>The Royal Navy maintains a continued maritime presence in the Gulf and Indian Ocean regions to protect and secure the nations many political and commercial interests. The enduring commitment usually consists of an escort (a guided-missile destroyer or frigate), four mine countermeasure vessels and a supporting RFA Bay Class. As of 2015, the UK has a permanent operating base in the region, HMS JUFAIR, located in Bahrain.</p> <p>The Royal Navy regularly contributes battle staff personnel to two multinational coalitions in the region; Combined Task Force 150 and Combined Task Force 151. Combined Task Force 150 is focused on maritime security and counter-terrorism; while Combined Task Force 151 is charged with anti-piracy missions. RN assets deployed to the region can be tasked to operate in support of these Task Forces.</p>
(12) Standing NATO Response Force (NRF)	The Royal Navy regularly contributes assets to the four Standing NATO Naval Task Groups. Standing NATO Maritime Group (SNMG) 1 and Standing NATO Mine Counter Measures Group (SNMCMG) 1, which operate in the North Atlantic and Baltic Sea, and their corresponding Mediterranean Sea-based groups, SNMG2 and SNMCMG2.
(13) Royal Marines and Amphibious Capability	The Royal Marines provide a specialist infantry capability, with expertise in amphibious, arctic and mountain warfare as part of our high readiness forces able to be deployed by helicopter and landing craft. They can deploy with protected mobility, logistics and command and control support from a specialist landing and command ship and Landing Ship Docks.

(14) Operation ATALANTA	Operation ATALANTA is a European Union multinational task force charged to combat terrorism and piracy off the Horn of Africa and Somalia. Operational headquarters are located in the United Kingdom at Northwood Headquarters, London.
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Source: Ministry of Defence ([RNT0006](#))

Formal Minutes

Tuesday 15 November 2016

Members present:

Rt Hon Dr Julian Lewis, in the Chair

Douglas Chapman	Madeleine Moon
James Gray	Rt Hon John Spellar
Jack Lopresti	Bob Stewart

Draft Report (*Restoring the Fleet: Naval Procurement and the National Shipbuilding Strategy*), proposed by the Chair, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 98 read and agreed to.

Summary agreed to.

Appendices agreed to.

Resolved, That the Report be the Third Report of the Committee to the House.

Ordered, That the Chair make the Report to the House.

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

[Adjourned till Tuesday 22 November at 2.30pm.]

Witnesses

The following witnesses gave evidence. Transcripts can be viewed on the [inquiry publications page](#) of the Committee's website.

Tuesday 7 June 2016

Question number

Admiral (Rtd) Rt Hon Lord West of Spithead GCB DSC PC, former First Sea Lord and Chief of Naval Staff, **Admiral (Rtd) Sir Mark Stanhop GCB OBE DL**, former First Sea Lord and Chief of Naval Staff, and **Peter Roberts**, Senior Research Fellow for Sea Power and Maritime Studies at RUSI [Q1–33](#)

John Hudson, Managing Director, BAE Systems Maritime, **Andrew McKeran**, Marine Business Executive, GE Energy Connections—Power Conversion, **Dr Andrew Tyler**, Chief Executive Europe, Northrop Grumman, and **Tomas Leahy**, Director, EMEA Programmes, Naval Marine, Rolls-Royce [Q34–110](#)

Duncan McPhee, Manual Convenor (Scotstoun), Unite [Q111–134](#)

Wednesday 20 July 2016

Harriett Baldwin MP, Parliamentary Under-Secretary of State, Ministry of Defence, **Admiral Sir Philip Jones KCB ADC**, First Sea Lord and Chief of the Naval Staff, and **Tony Douglas**, Chief Executive, Defence Equipment and Support, Ministry of Defence [Q135–207](#)

Published written evidence

The following written evidence was received and can be viewed on the [inquiry publications page](#) of the Committee's website.

RNT numbers are generated by the evidence processing system and so may not be complete.

- 1 Alan Cartwright & Robert Barnes ([RNT0001](#))
- 2 BAE Systems plc ([RNT0004](#))
- 3 Ministry of Defence ([RNT0002](#))
- 4 Ministry of Defence ([RNT0003](#))
- 5 Ministry of Defence ([RNT0005](#))
- 6 Ministry of Defence ([RNT0006](#))

List of Reports from the Committee during the current Parliament

All publications from the Committee are available on the [publications page](#) of the Committee's website. The reference number of the Government's response to each Report is printed in brackets after the HC printing number.

Session 2015–16

First Report	Flexible response? An SDSR checklist of potential threats and vulnerabilities	HC 493 (HC 794)
Second Report	Shifting the goalposts? Defence expenditure and the 2% pledge	HC 494 (HC 465)
Third Report	Beyond endurance? Military exercises and the duty of care	HC 598 (HC 525)
Fourth Report	An acceptable risk? The use of Lariam for military personnel	HC 567 (HC 648)
First Special Report	Ministry of Defence Annual Report and Accounts 2013–14: Government response to the Committee's Eighth Report of Session 2014–15	HC 365
Second Special Report	Re-thinking defence to meet new threats: Government response to the Committee's Tenth Report of Session 2014–15	HC 366
Third Special Report	Decision-making in Defence Policy: Government response to the Committee's Eleventh Report of Session 2014–15	HC 367
Fourth Special Report	Flexible Response? An SDSR checklist of potential threats and vulnerabilities: Government Response to the Committee's First Report of Session 2015–16	HC 794

Session 2016–17

First Report	Russia: Implications for UK defence and security	HC 107 (HC 668)
Second Report	UK military operations in Syria and Iraq	HC 106
First Special Report	Shifting the goalposts? Defence expenditure and the 2% pledge: Government Response to the Committee's Second Report of Session 2015–16	HC 465
Second Special Report	Beyond endurance? Military exercises and the duty of care: Government Response to the Committee's Third Report of Session 2015–16	HC 525
Third Special Report	An acceptable risk? The use of Lariam for military personnel: Government Response to the Committee's Fourth Report of Session 2015–16	HC 648
Fourth Special Report	Russia: Implications for UK defence and security: Government Response to the Committee's First Report of Session 2016–17	HC 668