



## BRIEFING PAPER

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# Replacing the UK's nuclear deterrent: progress of the Dreadnought class

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### Contents:

1. Background
2. What is the Dreadnought programme?
3. Delivery of the programme



# Contents

<b>Summary</b>	<b>3</b>
<b>1. Background</b>	<b>5</b>
<b>2. What is the Dreadnought programme?</b>	<b>7</b>
<b>3. Delivery of the programme</b>	<b>9</b>
3.1 A new delivery body	9
3.2 Where is the programme at?	10
3.3 Jobs and Industry	11
A wider jobs perspective	12
3.4 Cost	13
What has been spent so far?	15
Who will pay for it?	15
Comparison to other Government spending	16

## Summary

In a vote in July 2016 the House of Commons approved the decision to maintain the UK's nuclear deterrent beyond the early 2030s. After almost a decade of work on the project (the Successor programme), that vote subsequently enabled the programme to move forward into its manufacturing phase, which will see the construction of four new *Dreadnought* class ballistic missile submarines over the next 15-20 years.

### **What is the Dreadnought programme?**

Although commonly referred to as "the renewal or replacement of Trident", the Dreadnought programme is about the design, development and manufacture of four new *Dreadnought* class ballistic missile submarines (SSBN) that will maintain the UK's nuclear posture of Continuous At Sea Deterrence (CASD).

A Common Missile Compartment (CMC) for the SSBN, which will house the current Trident strategic weapons system, is being developed in conjunction with the United States.

Replacement of the Trident II D5 missile itself is not part of the programme. The UK is, however, participating in the US' current service-life extension programme for the Trident II D5 missile, which will extend the life of the Trident missile to the early 2060s. Decisions on a replacement warhead have also been deferred until 2019/2020.

Under changes introduced in the 2015 Strategic Defence and Security Review (SDSR), the first submarine is now expected to enter service in the early 2030s and will have a service life of at least 30 years.

### **Delivery of the Programme**

Recognising that the Dreadnought programme is one of the largest Government investment programmes going forward, the 2015 SDSR made a number of changes to the structure of the project, specifically with reference to governance and oversight of delivery.

#### *A new delivery body*

New organisational and managerial arrangements for the UK's defence nuclear enterprise as a whole, and for delivering the Dreadnought programme specifically, were outlined. A new team within the MOD (Director General Nuclear), headed by a commercial specialist, has subsequently been established to oversee all aspects of the nuclear enterprise. A new Submarine Delivery Body will also be established, as an Executive Agency of the MOD, which will manage the procurement and in-service support of all nuclear submarines, including Dreadnought. It will sit alongside the MOD's Defence Equipment and Support (DE&S).

In tandem, the MOD is also working with industry on proposals to establish a new commercial alliance between the MOD and its two key industrial partners on the dreadnought programme: BAE Systems and Rolls Royce.

#### *Where is the programme at?*

In September 2016 the programme moved forward from its assessment phase, into "risk reduction and demonstration" or what has been termed Delivery Phase 1. Construction of the first submarine formally began on 5 October 2016 with the cutting of the steel for the first submarine.

## 4 Replacing the UK's nuclear deterrent: progress of the Dreadnought class

### *Jobs and Industry*

BAE Systems, Rolls Royce and Babcock International are the Tier One industrial partners in this project. Although the MOD has contracted directly with BAE Systems and Rolls Royce for production, hundreds of suppliers across the UK are working on the Dreadnought programme. As the programme moves forward BAE Systems has estimated that 85% of its supply chain will be based in the UK, potentially involving around 850 British companies.

It is unclear, however, how much of the actual value of the overall programme rests with that 85% supply chain in the UK and how much will be spent overseas. To date BAE Systems has contracted for the specialised high strength steel required for the first submarine from a French supplier. The use of foreign steel in the construction of the Dreadnought class has raised many questions over whether more can be done to promote the British steel industry within MOD programmes.

### *Costs*

The costs of the design and manufacture of a class of four submarines will be £31 billion, including defence inflation over the life of the programme. A £10 billion contingency has also been set aside. Once the new nuclear deterrent comes into service the annual in-service costs are expected to continue at approximately 6% of the defence budget.

Approximately £4.8 billion had been allocated to the concept and assessment phases of the programme. At the start of Delivery Phase 1 two contracts worth £1.3 billion were awarded for work going forward.

In line with convention, the Dreadnought programme will be funded from the MOD's core equipment procurement budget.

# 1. Background

The Labour Government's 2006 White Paper, [\*The Future of the United Kingdom's Nuclear Deterrent\*](#) concluded that the international security environment does not justify complete UK nuclear disarmament and that, in terms of both cost and capability, retaining the submarine-based Trident system would provide the most effective nuclear deterrent for the UK.

The decision was therefore taken to maintain the UK's existing nuclear capability by replacing the Vanguard class submarines (SSBN) and participating in the current US service-life extension programme for the Trident II D5 missile.

A debate and vote in the House of Commons on the general principle of whether the UK should retain a strategic nuclear deterrent beyond the life of the current system was held on [14 March 2007](#). That motion was passed on division by 409 to 161 votes.

Work began immediately on the concept phase of the 'Successor' programme, with the project passing its [Initial Gate](#) in April 2011.<sup>1</sup> A five-year assessment phase followed which largely focused on the design of the Successor platform. Several contracts were awarded to the main industrial partners on this project (BAE Systems, Rolls Royce and Babcock) in order to deliver on each of the stages of the assessment phase. Approximately £4.8 billion was assigned to the initial phases of the Successor programme.<sup>2</sup>

In a vote in July 2016 the House of Commons once again approved the decision to maintain the UK's nuclear deterrent beyond the early 2030s.<sup>3</sup> After almost a decade of work on the project, that vote subsequently enabled the programme to move forward into its manufacturing phase, which will see the construction of four new *Dreadnought* class ballistic missile submarines over the next 15-20 years. The first submarine will enter service in the early 2030s.

Successive governments have expressed the belief that the programme to replace the UK's nuclear deterrent is compatible with its obligations under the Nuclear Non-Proliferation Treaty (NPT), arguing that the treaty contains no prohibition on updating existing weapons systems and gives no explicit timeframe for nuclear disarmament.

This briefing paper will examine the Dreadnought programme as it advances. It does not examine the Government's overall nuclear policies or its position on disarmament. Nor does it set out in detail all of the

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<sup>1</sup> In the generic procurement cycle, Initial Gate is the first major investment point in a programme. It assesses the feasibility of the programme going forward, including making decisions on broad design parameters and ordering any long lead items that may be required. Approval by the MOD's internal Investment Approvals Board is required at this point before funds can be released for the assessment phase.

<sup>2</sup> £905 million on the feasibility and concept phase and a further £3.9 billion on the assessment phase.

<sup>3</sup> [Division 46](#), 18 July 2016. Parliament had also voted in support of the Government's plans in response to SNP-led Opposition Day debates in January 2015 and November 2015.

## 6 Replacing the UK's nuclear deterrent: progress of the Dreadnought class

arguments for and against nuclear weapons. All of these issues are examined in Library briefing paper CBP7353, [Replacing the UK's 'Trident' Nuclear Deterrent](#), July 2016.

### **Box 1: Additional Suggested Reading**

- Stanislav Abaimov and Paul Ingram, [Hacking UK Trident: A Growing Threat](#), BASIC, June 2017
- Andrew Futter, *Cyber Threats and Nuclear Weapons*, RUSI Occasional Paper, July 2016
- Malcolm Chalmers and Cristina Varriale, *Future Nuclear Threats to the UK*, RUSI Occasional Paper, July 2016

## 2. What is the Dreadnought programme?

Although commonly referred to as “the renewal or replacement of Trident”, the Dreadnought programme<sup>4</sup> is about the design, development and manufacture of four new *Dreadnought* class ballistic missile submarines (SSBN) that will maintain the UK’s posture of Continuous At Sea Deterrence (CASD).<sup>5</sup>

A Common Missile Compartment (CMC) for the SSBN, which will house the current Trident strategic weapons system, is being developed in conjunction with the United States.<sup>6</sup> The 2010 Strategic Defence and Security Review (SDSR) announced that the new submarines would deploy with eight *operational* missile tubes, instead of the planned 12. However the design of the CMC will still comprise 12 tubes, with the remaining missile tubes configured with ballast in order to enable the submarine to dive.

Replacement of the Trident II D5 missile itself is not part of the programme. The UK is, however, participating in the US’ current service-life extension programme for the Trident II D5 missile, which will extend the life of the Trident missile to the early 2060s.<sup>7</sup> Decisions on a replacement warhead have also been deferred until 2019/2020.<sup>8</sup>

Under changes introduced in the 2015 SDSR, the first submarine is now expected to enter service in the early 2030s and will have a service life of at least 30 years.<sup>9</sup> This is the third time the in-service life of the current *Vanguard* class SSBN has been extended<sup>10</sup> and will now result in an overall lifespan of the *Vanguard* class of approximately 37-38 years.<sup>11</sup> The MOD has refused to be drawn on specific dates for entry

### Interesting Facts

At 152.9 metres long and with a displacement of 17,200 tonnes, the Dreadnought class will be the largest submarine ever built for the Royal Navy.

The first Royal Navy submarine to be built with separate female crew quarters, toilets and washing facilities.

130 crew members, including 3 chefs and 1 doctor.

<sup>4</sup> Previously referred to as the ‘Successor’ programme. The Ministry of Defence announced the name of the new class of SSBN on 21 October 2016 (HCWS206).

<sup>5</sup> The UK has maintained a posture of CASD (Operation Relentless) since 1969. There had initially been considerable debate over whether it would be possible to procure three boats, and still maintain CASD. The intention had been to make a decision on the size of the fleet at Main Gate. However, in April 2015 Michael Fallon stated in a speech at RUSI that a Conservative government would commit to the procurement of a 4-boat fleet. That position was reiterated in PQ6841, *Trident*, 20 July 2015

<sup>6</sup> The design for the Successor submarine’s common missile compartment (CMC) is being delivered under the 1963 Polaris Sales Agreement (PSA), as amended (HL Deb 11 February 2013, c92WA)

<sup>7</sup> PQ35764, *Trident*, 4 May 2016

<sup>8</sup> The 2006 White Paper had included costings for a replacement warhead. However, the 2010 SDSR deferred any decision on a new warhead to 2019, given that the transition to a replacement warhead would not be required until at least the late 2030s. The MOD has estimated that it will take approximately 17 years from an initial procurement decision to develop any replacement warhead for the Trident II D5 missile, and commence production (MOD, *2014 Update to Parliament*)

<sup>9</sup> Ministry of Defence, [Dreadnought submarine programme factsheet](#)

<sup>10</sup> The first time was in the 2006 White Paper when the service life of the submarine was extended from 25 to 30 years. The second was in the 2010 SDSR when the in-service date of the first submarine was earmarked for 2028.

<sup>11</sup> HMS Vanguard entered service in December 1994; while the last in class, HMS Vengeance, entered service in February 2001.

## 8 Replacing the UK's nuclear deterrent: progress of the Dreadnought class

into service stating that “detailed planning assumptions for Service Entry are classified”.<sup>12</sup>

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<sup>12</sup> PQ24643, *Trident Submarines*, 1 February 2016



## 3. Delivery of the programme

The Dreadnought programme has been described as:

The largest UK submarine project in a generation and will be one of the most complex undertaken by British industry.<sup>13</sup>

### 3.1 A new delivery body

Recognising that the Dreadnought programme is one of the largest Government investment programmes going forward, the 2015 SDSR made a number of changes to the structure of the project, specifically with reference to governance and oversight of delivery.

New organisational and managerial arrangements for the UK's defence nuclear enterprise as a whole, and for delivering the Dreadnought programme specifically, were subsequently outlined. A new team within the MOD (Director General Nuclear), headed by a commercial specialist, would be established to oversee all aspects of the nuclear enterprise; while a new delivery body would be established in order to deliver the procurement and in-service support of all nuclear submarines, including Dreadnought.

Initial speculation among the media and other commentators suggested that the Treasury had been looking to bring the new delivery body under its own remit.<sup>14</sup> The justification for doing so was reportedly the historical failure of the MOD to manage large and complex projects such as this, with subsequent equipment being delivered several years late and vastly over budget.<sup>15</sup>

In a Parliamentary debate on 24 November 2015, however, then Minister for Defence Procurement, Philip Dunne, refuted suggestions that the Treasury would assume oversight of the Successor programme:

On the governance of implementing a delivery organisation to make sure we deliver the Successor programme on time and to budget over the years to come, I can confirm that this will remain subject to oversight by the MOD [...]

As the Prime Minister and the Secretary of State have made clear, this will be reporting through the MOD structures to the Secretary of State, and of course the Treasury will take its interest in the delivery of major programmes as it does in all our category A programmes, of which this will obviously be the largest.<sup>16</sup>

That position was reconfirmed by the MOD in December 2015.<sup>17</sup>

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<sup>13</sup> Ministry of Defence, *2016 Update to Parliament*, December 2016

<sup>14</sup> See for example: "[George Osborne issues Treasury ultimatum over Trident](#)", *The Daily Telegraph*, 12 November 2015

<sup>15</sup> The most comparable programme is the Astute class submarine which is currently £1.4 billion over budget and several years late (National Audit office, *Major Projects Report 2015*, HC488-II, October 2015)

<sup>16</sup> HC Deb 24 November 2015, c1254

<sup>17</sup> PQ HL3927, 3 December 2015

## The Submarine Delivery Body

In its 2016 [Update to Parliament](#), the MOD provided further detail on its proposed governance structure for the Dreadnought programme.

A new Submarine Delivery Body will be established, as an Executive Agency of the MOD, which will manage the procurement and in-service support of all nuclear submarines, including Dreadnought.<sup>18</sup>

It will sit alongside Defence Equipment and Support (DE&S), the organisation responsible for MOD procurement, and have the authority and freedom to recruit and retain the best individuals to manage the submarine enterprise. All those personnel already working on submarine related activities within DE&S will transfer across to the new delivery body.

### A commercial alliance

In tandem with the creation of a new delivery body, the MOD is also working with industry on proposals to establish a new commercial alliance between the MOD and its two key industrial partners on the dreadnought programme: BAE Systems and Rolls Royce.<sup>19</sup>

The intention is to improve collective performance on the programme, provide greater assurance of progress, with supporting risk and reward arrangements.

## 3.2 Where is the programme at?

In addition to changes in governance, SDSR15 also announced that “due to the scale and complexity” new commercial arrangements would be established between Government and industry that will see the programme subject to several stages of investment, with multiple control points, instead of the traditional single ‘Main gate’ approach.<sup>20</sup> Adopting such an approach will allow the MOD to more effectively regulate and control programme funding and achieve delivery targets.

Following the vote in the House of Commons in July 2016 the programme has now moved forward from its assessment phase, into “risk reduction and demonstration” or what has been termed Delivery Phase 1.

That phase officially began on 9 September 2016; and construction of the first submarine formally began on 5 October 2016 with the cutting of the steel for the first submarine.<sup>21</sup>

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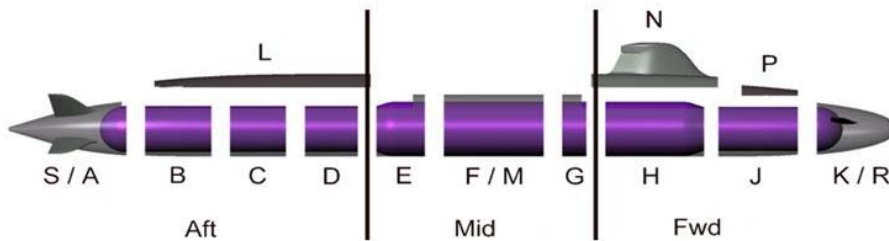
<sup>18</sup> Separately DG Nuclear has been established to oversee the entire defence nuclear enterprise. Julian Kelly was appointed as Director General Nuclear in April 2017.

<sup>19</sup> This approach was adopted in relation to the Queen Elizabeth II aircraft carrier project with the creation of the [Aircraft Carrier Alliance](#), which is a partnership between the MOD and BAE Systems, Thales UK and Babcock.

<sup>20</sup> The procurement of defence equipment in the UK is largely conducted in accordance with the generic CADMID cycle, which comprises six phases in a project and two main investment decision points, or ‘gates’: the Concept and feasibility phase followed by Initial Gate; the assessment phase followed by Main Gate; demonstration; manufacture; in-service and disposal. This approach was also adopted in the QEII aircraft carrier programme.

<sup>21</sup> HCWS206, 21 October 2016

The submarines will be built in 16 units, grouped into three “mega units” (Aft, Mid and Forward) in order to shorten the overall build timeframe:



Source: MOD, 2016 Update to Parliament

At present there is no indication of how many stages of investment there will be, what those future phases will entail, or when they might be implemented.

### 3.3 Jobs and Industry

BAE Systems, Rolls Royce and Babcock International are the Tier One industrial partners in this project.

As with previous SSBN, the submarine will be built by BAE Systems in Barrow-in-Furness and the PWR3 propulsion system will be built by Rolls Royce at Raynesway, Derby.

Although the MOD has contracted directly with BAE Systems and Rolls Royce for production, hundreds of suppliers across the UK are working on the Dreadnought programme.

As the programme moves forward BAE Systems has estimated that 85% of its supply chain will be based in the UK, potentially involving around 850 British companies.

At present the number of people working directly on the programme is approximately 2,600. More than half of those are designers and engineers. The programme as a whole is expected to support up to 6,000 jobs. As the MOD has noted:

The nuclear deterrent represents a significant national undertaking, which is drawing on cutting edge capabilities, innovation, design and engineering skills available in the UK, and is providing employment opportunities and development prospects for a substantial number of apprentices, trainees and graduates in a wide range of technical and other disciplines.<sup>22</sup>

It is unclear, however, how much of the actual value of the overall programme rests with that 85% supply chain in the UK and how much will be spent overseas. To date BAE Systems has contracted for the specialised high strength steel required for the first submarine from a

<sup>22</sup> MOD, 2016 Update to Parliament

## 12 Replacing the UK's nuclear deterrent: progress of the Dreadnought class

French supplier. The use of foreign steel in the construction of the Dreadnought class has raised many questions over whether more can be done to promote the British steel industry within MOD programmes. In answer to a Parliamentary Question in October 2016 the Minister for Defence Procurement, Harriet Baldwin, stated:

The management of the steel procurement process for the Successor Programme is the responsibility of the Prime Contractor, BAE Systems. The Ministry of Defence's involvement with suppliers was limited to conducting a technical assessment during the tendering process to ensure bids met specifications.

The tendering process was progressed and concluded by the Prime Contractor, no viable UK bid was received for this part of the Successor submarine manufacture. Other stages of construction will include grades of steel manufactured by British suppliers and I encourage them to take the opportunity to bid.<sup>23</sup>

The Common Missile Compartment for the submarine is also a collaborative programme with the US. American company General Dynamics is the prime contractor for the CMC, and is working in co-operation with BAE Systems to ensure that the design accommodates UK requirements for the Dreadnought class. In October 2016 Babcock International was awarded a contract by General Dynamics to manufacture 22 tactical missile tubes as part of the CMC project. That work will take place in Rosyth and secure approximately 150 jobs. Whether work on the CMC forms any part of the remaining 15% of BAE Systems supply chain, however, is also unclear.

### A wider jobs perspective

In his [submission to the BASIC Trident Commission](#) in March 2012, Professor Keith Hartley assessed the industrial implications of the Trident replacement programme. He suggested that if both construction and in-service support of the nuclear deterrent are taken into consideration:

A Trident replacement will support almost 26,000 jobs over its life-cycle (based on four boats and including some 1,850 Navy personnel jobs). The totals comprise the following employment numbers:

BAE at Barrow-in-Furness:	6,045
BAE suppliers:	5,017
AWE:	4,500
AWE suppliers:	4,500
Devonport:	1,590
Devonport suppliers:	1,590
Operations and support:	2,700
<b>TOTAL</b>	<b>25,942</b>

However, he went on to caution that this estimate of employment would be at the upper-end of the scale and makes no allowance for issues such as improvements in labour productivity. Equally he argued that cancelling the Trident programme would not necessarily result in an

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<sup>23</sup> PQ48618, *Trident submarines: iron and steel*, 18 October 2016

equal number of job losses as many companies would seek alternative markets or contracts, particularly in the supply chain. Direct job losses, he argued, would be more likely to affect BAE, Rolls Royce, AWE and Devonport.<sup>24</sup>

The link between jobs and replacing Trident has, however, been disputed by CND and the Scottish Trade Unions Congress. A 2007 report by CND *Trident and employment: the UK's industrial and technological network for nuclear weapons* argued that:

Replacing Trident, at a cost to the British public of at least £76 billion over the system's lifetime, represents a very poor rate of return in terms of generating jobs. The report finds that if you started with a blank slate and wanted to make such a multi-billion pound investment of public money to maximise employment, the last thing you would do is build nuclear weapons.

A decision not to replace Trident could be the catalyst for a stronger, diversified economy in those few localities with a residual dependency on nuclear weapons work.

This emphasis on defence diversification was also the subject of an April 2015 report by CND and the STUC entitled [Trident and Jobs: the case for a Scottish Defence Diversification Agency](#). That report argued in favour of a Scottish Defence Diversification Agency to plan and resource the diversification of jobs away from military programmes such as Trident and promote a greener Scottish economy.

This notion of defence diversification is also one that Labour Leader Jeremy Corbyn has promoted as part of his argument for moving toward disarmament.<sup>25</sup> In his plan for [Defence Diversification](#), published in August 2015, he stated:

I am committed to ensure that in transitioning away from nuclear weapons, we do so in a way that protects the jobs and skills of those who currently work on Trident, and in the defence sector more widely. This will help grow the British economy.

The Scottish GMB, however, has stated that “the successor programme going ahead is welcome as it is crucial to jobs in Scotland” and has suggested that any notions of defence diversification are “based on Alice-in-Wonderland politics promising pie in the sky alternative jobs for workers who are vital to our national security”.<sup>26</sup>

### 3.4 Cost

The 2015 SDSR confirmed that the costs of design and manufacture of a class of four submarines will be £31 billion, an increase of £6 billion on estimates set down in the programme's Initial Gate report in 2011 (at outturn prices). This cost estimate includes all costs associated with acquisition including feasibility studies, design, assessment, demonstration and manufacture (including the US-UK Common Missile

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<sup>24</sup> Professor Keith Hartley, *Defence Industrial Issues: Employment, Skills, Technology and Regional Impacts*, Discussion Paper No.2 of the BASIC Trident Commission, 2012

<sup>25</sup> [Defence Diversification](#), August 2015

<sup>26</sup> [GMB Trident Successor Programme Conference](#), 25 February 2016

## 14 Replacing the UK's nuclear deterrent: progress of the Dreadnought class

Compartment project).<sup>27</sup> It also accounts for expected defence inflation over the life of the programme<sup>28</sup> and investment in new facilities at BAE Systems in Barrow, which in 2013 the MOD suggested would be “limited to the modification of existing infrastructure to accommodate the differences between the Vanguard and Successor designs”.<sup>29</sup> Investment in HM Naval Base Clyde is not part of the Dreadnought programme spend.<sup>30</sup>

As such the £31 billion price tag incorporates the £4.8 billion already earmarked for the initial phases of the programme.

A contingency of £10 billion will also be set aside. This contingency represents approximately 35% of the submarine cost to completion and according to the MOD “is a prudent estimate based on past experience of large, complex projects, such as the 2012 Olympics”.<sup>31</sup> However there is no guarantee whether all, or any, of this money will be spent. If it were then it would provide an upper-end estimate of acquisition of £41 billion. Spread over the 35 year life of the programme, this represents 0.2% of Government spending.

The MOD has stated that “the revised cost and schedule reflect the greater understanding we now have about the detailed design of the submarines and their manufacture”.<sup>32</sup>

The years of peak expenditure are expected to be principally 2018 through to the mid/late 2030s, as the programme moves into full production.

Separately the cost of the Trident II D5 Service-life Extension programme was estimated, in 2006, to cost in the region of £250 million (£292 million in 2015-16 prices).

Once the new nuclear deterrent submarine comes into service the annual in-service costs are expected to continue at approximately 6% of the defence budget. Under the current defence budget 6% of spending equates to approximately £2.1 billion per year. As part of the 2015 CSR settlement, that figure is expected to rise to £2.38 billion by 2020/2021.

Calculating overall in-service costs, however, is fraught with difficulty as assumptions have to be made about the state of the British economy

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<sup>27</sup> HC Deb 4 June 2009, c627W

<sup>28</sup> Defence inflation is often one of the largest sources of additional costs on a procurement programme.

<sup>29</sup> The programme of works at Barrow is largely focused on providing capacity to accommodate the Successor submarine, which is larger than the Astute or Vanguard class and to speed up manufacturing processes (MOD, *2013 Update to Parliament*). In December 2014 £206 million of funding was announced; followed by an additional £225 million in March 2016 to ensure that “the submarines are built with maximum efficiency” (MOD press release, 3 March 2016)

<sup>30</sup> The announcement on 31 August 2015 of £500 million of investment for HM Naval Base Clyde, over a ten-year period, is part of the MOD’s ongoing programme of work to establish a submarine centre of excellence at HM Naval Base Clyde once the entire Royal Navy submarine fleet is based there from 2020. In February 2017 a further £1.3 billion was announced for upgrades at HM Naval Base Clyde, including the waterfront, engineering support, accommodation and physical security.

<sup>31</sup> PQ24652, *Trident Submarines: Finance*, 2 February 2016

<sup>32</sup> HM Government, *National Security Strategy and Strategic Defence and Security Review 2015*, Cm9161, November 2015, p.34

and projected levels of defence spending over the next 50-60 years. As such this paper does not attempt to do so.<sup>33</sup>

## What has been spent so far?

### Concept and Assessment Phase

As outline above, approximately £4.8 billion had been allocated to the concept and assessment phases of the programme (£905 million and £3.9 billion respectively). Several long-lead items, including the steel for the first submarine and items relating to the propulsion system, have been contracted for under this phase of spending.<sup>34</sup>

In its 2016 [Update to Parliament](#) the MOD confirmed that, by the end of 2016, the Department had spent approximately £2.5 billion of its assessment phase funds. It also confirmed that, due to the long-lead nature of some of the goods and services under contract, payments for items procured during the assessment phase will continue through to 2023.

### Demonstration and Manufacture Phase Spending

At the start of Delivery Phase 1 two contracts were awarded for work going forward:

- £986 million for platform construction
- £277 million for continuing design work, purchasing materials and long lead items and investing in facilities at Barrow.

## Who will pay for it?

In line with convention, the Dreadnought programme will be funded from the MOD's core equipment procurement budget.<sup>35</sup>

This was reiterated by the MOD in answer to a Parliamentary Question on 25 January 2017:

The Chancellor of the Exchequer and Defence Secretary agree that funding and control for the Dreadnought programme remain rightly part of the Defence Budget.<sup>36</sup>

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<sup>33</sup> A more detailed explanation of the difficulties in determining in-service costs over a 30 year period is available in in Library briefing paper CBP7353, [Replacing the UK's 'Trident' Nuclear Deterrent](#), p.48

<sup>34</sup> A full list of long lead items is discussed in Library briefing paper CBP7353, [Replacing the UK's 'Trident' Nuclear Deterrent](#), p.52-53

<sup>35</sup> In 2007 a disagreement erupted between the MOD and the Treasury over the funding of the capital costs of the Successor programme. The MOD suggested that the capital costs of procuring the nuclear deterrent had, in the past, been borne by the Treasury, a position which the Treasury refuted. The argument centred round an increase to the defence budget which was announced as part of the 2007 Comprehensive Spending Review. The CSR settlement suggested that the increase would allow the MOD "to make provision for the maintenance of the nuclear deterrent", which some commentators considered to be a commitment to fund the capital costs of the project. However, the MOD confirmed in November 2007 that while additional funding had been provided to the MOD budget, spending on the Successor programme would come from within the core equipment budget.

<sup>36</sup> PQHL4769, *Trident submarines*, 25 January 2017

## Comparison to other Government spending<sup>37</sup>

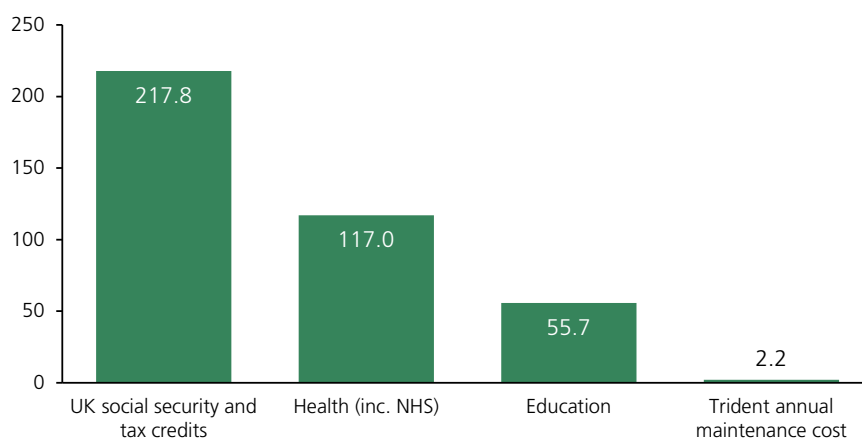
At, potentially, £41 billion the Dreadnought programme is one of the most expensive Government projects going forward. It is a project that has around twice the budget of Crossrail, and three times the budget of the London Olympics.<sup>38</sup>

With respect to departmental spending, the running costs of the nuclear deterrent (presently around £2.2 billion per year) is often compared to the benefits bill, or NHS spending.

In 2016/17, for example, the estimated cost of maintaining the nuclear deterrent would be 1% of total planned Government expenditure on UK social security and tax credits expenditure in that year.

### Government expenditure

Forecasts for 2016/17, £bn



Note: Resouce Departmental Expenditure Limit including depreciation. Trident maintenance cost estimated at 6% of the UK's defence budget. Sources: DWP, Benefit Expenditure and Caseload tables 2017; HM Treasury, Spending Review 2015, Table 1A

The £2.2bn spent on maintaining the nuclear deterrent per year is roughly equivalent to £41m per week, or around £33 per person per year.<sup>39</sup>

Alternatively, £2.2 billion a year is roughly equivalent to what is spent on Income Support, Statutory Maternity Pay, Carer's Allowance, or Winter Fuel Payments (each of which are around £2 – £2.5 billion per year).<sup>40</sup>

According the Treasury's Spending Review 2015, the planned spend on the costs of providing health care (including the NHS) in 2016/17 is £117.0bn. This equates to around £2.25bn per week.

<sup>37</sup> With thanks to Noel Dempsey in the Social and General Statistic Section of the House of Commons Library.

<sup>38</sup> Michael Fallon [speech](#) to a reception of the Keep Our Future Afloat Campaign, House of Commons, 21 October 2015.

<sup>39</sup> Based on 2015 mid-year population estimate for the UK. ONS, [Population estimates 2015](#).

<sup>40</sup> DWP, Benefit Expenditure and Caseload tables 2017, Table 1A.



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