



House of Commons  
Defence Committee

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**The Future of the UK's  
Strategic Nuclear  
Deterrent: the White  
Paper: Government  
Response to the  
Committee's Ninth Report  
of Session 2006–07**

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**Eleventh Special Report of Session 2006–07**

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## The Defence Committee

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### Committee staff

The current staff of the Committee are Philippa Helme (Clerk), Eliot Wilson (Second Clerk), Ian Rogers (Audit Adviser), Stephen Jones (Committee Specialist), Adrian Jenner (Inquiry Manager), Richard Dawson (Committee Assistant), Camilla Brace (Secretary) and Stewart McIlvenna (Senior Office Clerk).

### Contacts

All correspondence should be addressed to the Clerk of the Defence Committee, House of Commons, London SW1A 0AA. The telephone number for general enquiries is 020 7219 5745; the Committee's email address is [defcom@parliament.uk](mailto:defcom@parliament.uk). Media inquiries should be addressed to Alex Paterson on 020 7219 1589.

# Report

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The Defence Committee published its Ninth Report of Session 2006–07 on *The Future of the UK's Strategic Nuclear Deterrent: the White Paper* on 7 March 2007, as House of Commons Paper HC 225. The Government's response to this report was received on 17 May 2007. This is appended below at Appendix 1.

Also appended to this report, at Appendix 2, is the Government's interim response to the Committee's report which was received on 9 March 2007 and made available prior to the debate in the House of Commons on 14 March 2007.

## Appendix 1: Government response

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The Ministry of Defence was grateful to the Committee for undertaking its assessment of the White Paper on the Future of the United Kingdom's Nuclear Deterrent (Command 6994). We welcome the report and thank the Committee for its contribution to the debate.

The Ministry of Defence has already responded to many of the specific issues raised by the Committee, including in the Defence Secretary's letter to the Chairman of the Committee dated 9 March; in responding to Parliamentary Questions following publication of the Committee's report on 7 March; and during the debate in the House of Commons on 14 March. Nonetheless, we thought it would be useful to provide a comprehensive response in a single document to all the points raised by the Committee.

We are pleased to note that the Committee recognised the efforts that the Government as a whole has made to ensure that this decision making process was as open and well-informed as possible. We are pleased to note too that the Committee did not challenge the fundamental decisions set out in the White Paper, namely to retain a deterrent based on a combination of nuclear-powered submarines and the Trident D5 ballistic missile, and to start work now to replace the current Vanguard-class submarines.

We would like to respond to the aspect of the Committee's report that left open the question of whether the White Paper in some way entails a lowering of the threshold for nuclear use by the UK Government. There is absolutely nothing in the White Paper which implies a lowering of the threshold at which we might contemplate using our nuclear deterrent. The Government's fundamental policy has not changed: indeed, the only relevant change is our decision to cease the use of the term sub-strategic, on the basis that we fully recognise that any use of nuclear weapons would, by definition, be strategic in both intent and effect. Throughout the White Paper, and subsequently, we have made absolutely explicit that it remains our position that we would only consider the use of our nuclear weapons in extreme circumstances of self-defence.

We look forward to engaging further with the Committee in future on these and other issues relevant to the nuclear deterrent, as this vitally important programme is taken forward.

Detailed comments on the specific conclusions and recommendations are set out in the attachment to this memorandum.

### Detailed Response to Conclusions and Recommendations

**1. Our intention is to encourage and inform the public debate on the future of the nuclear deterrent by exploring the key issues and questions which should be addressed in that debate. We do not express a view on the merits of retaining and renewing the UK's nuclear deterrent. Endorsing or rejecting the Government's proposals will be for the House of Commons, as a whole, to decide. (Paragraph 3)**

These comments are noted. The House of Commons supported the Government's decision by a substantial majority.

**2. Decisions on the future of the UK's nuclear deterrent should be taken on the strategic needs of the country, not on industrial factors. However, whilst industrial considerations should not affect the substance of decisions, they will necessarily affect the timing of those decisions. It is not unreasonable for the Government to take these factors into account. (Paragraph 26)**

We agree with this assessment which broadly reflects the approach that we have adopted. The timing of these decisions was determined by a realistic assessment of the life of our existing submarines and the time it might take to develop a replacement.

**3. One key difference between the US and UK submarine deterrent programmes is that the UK seeks to operate a continuous-at-sea deterrent with just four boats whereas the United States is “generating two or three hulls from 14”. (Paragraph 40)**

We agree with this statement. However, another, perhaps equally important, difference, in the context of making risk judgements on the UK and US deterrent programmes, is that the US possesses a number of sea, land and air-based nuclear deterrent systems, whereas the UK relies on a single sea-based system.

**4. The White Paper states that decisions are required now on the future of the UK's strategic nuclear deterrent. It says that the life of the current deterrent platform, the Vanguard-class ballistic missile submarine, was designed for a service life of 25 years, which could be extended to 30 years with a life extension programme, albeit not without some risk. It maintains that procurement of a new submarine will take around 17 years. On this basis decisions are required in 2007. Some witnesses to our inquiry challenged the Government's timetable. On life extension, the evidence we received from critics suggested the Vanguard-class, like the US Ohio-class Trident submarine, could be maintained in service for up to 45 years. The Government has told us that to plan for life extension beyond 30 years would be unwise, given the 25 year design life of the Vanguard-class, the operational demands placed upon it in order to maintain continuous deterrent patrols, the experience of the declining reliability and availability of previous submarines beyond the 25-year point, and the design and construction differences between the Vanguard and the Ohio-class submarines. (Paragraph 43)**

The Ministry of Defence reached its conclusion on the scope for extending the life of the Vanguard-class submarines beyond 30 years on the basis of the best expert advice available to it. It would be irresponsible to plan on the basis that submarine lives could safely and cost-effectively be extended beyond this point, especially as it is the UK's sole nuclear deterrent system. The comparison with the US Ohio-class boats is misleading, not least because their initial design, maintenance and operational regimes were different from the Vanguard-class.

**5. A procurement timetable of 17 years is three years longer than for the existing Vanguard-class submarine. The Government says that the additional time is required because of changes in the capacity of the UK's submarine industrial base and because initial concept and development work on the Vanguard-class was already underway when the Government of the day announced its decision to acquire the Trident system. The Government says that no such work has yet begun on a Vanguard successor and**

that Parliament is being consulted at a much earlier stage than on previous occasions. (Paragraph 44)

**6. The challenge to the Government's estimate of 17 years is partly based on the suggestion that work has started on "concept options for platforms", whereas the government timetable commences with the "detailed concept work". We take it that these two things are different and accept that the 14-year period which we commented on in our previous inquiry commenced from a more advanced stage in the procurement cycle (years rather than months away) after a period of detailed concept work had been carried out. (Paragraph 45)**

We are pleased that the Committee accepts that the 14-year period for the Vanguard-class referred to in its previous report is not directly comparable to the 17-year period that the White Paper makes clear is needed to design, manufacture and deploy new submarines. Prior to the debate and vote on 14 March, work had concentrated on a generic comparison between the various platforms and systems that we might have considered for our future deterrent requirements. Work will now start on detailed concept and assessment work specifically and solely on new nuclear powered submarines, focused in particular on the work needed to inform the decisions that will be taken at the Main Gate point.

**7. Neither the White Paper nor the exchange of letters between the Prime Minister and the US President in December 2006 explain adequately why decisions on UK participation in the Trident D5 missile life extension are required by 2007. The Government should clarify why decisions on the missile are required now. (Paragraph 50)**

The Trident D5 Life Extension programme will be a joint UK/US project to refurbish the whole stockpile of Trident D5 missiles by around 2020 and thereby extend the life of that missile out to the early 2040s. The US has established a clear project timetable to achieve that. In order to ensure we participate in the programme in the most cost-effective manner, we need to align with that timetable and this requires us to commit this year to the missile life extension programme.

**8. The White Paper does not propose any fundamental change to the UK's nuclear weapons policy. (Paragraph 52)**

We agree with this conclusion.

**9. The UK's nuclear arsenal is small in comparison to that of other established nuclear powers. The UK has made very significant reductions in the scale of its nuclear arsenal since the end of the Cold War. (Paragraph 56)**

We agree with this conclusion and welcome the fact that the Committee has highlighted our efforts in this area in this way.

**10. We welcome the reduction in warhead numbers announced in the White Paper and recognise that this follows the significant reductions previously announced in the 1998 Strategic Defence Review. We welcome this arms reduction measure, but it is unclear whether this has significance as a non-proliferation measure. Since the White Paper**

**proposes no changes to the number of warheads deployed on UK submarines, it is unclear that this reduction has any operational significance. (Paragraph 63)**

It is unfortunate that some have sought to down-play the significance of the reduction in warhead numbers set out in the recent White Paper. By any measure, reducing the number of operationally available warheads to fewer than 160 is an important further step, especially when considered in the wider context of what has been a long-standing and consistent policy to retain only the minimum nuclear capability that we require to meet our nuclear deterrence objectives. This represents a further demonstration of our commitment to making progress on the 13 Practical Steps towards nuclear disarmament that were agreed at the 2000 NPT Review Conference.

In terms of the limit on the number of warheads deployed on our one submarine on patrol, this was reduced by 50% at the time of the Strategic Defence Review and we believe that the figure of up to 48 deployed warheads is currently the minimum we require to achieve our nuclear deterrence objectives.

**11. The White Paper states that the UK is committed to maintaining a “minimum” nuclear deterrent. The Secretary of State told us that the Government had conducted a very hard analysis of the nuclear capabilities required by the UK with a view to ensuring that they were at a minimum necessary level, but we are uncertain how the Government determines what constitutes a “minimum” deterrent. The Government should say how it calculates the scale of a minimum deterrent. (Paragraph 64)**

The White Paper published on 4 December 2006 made clear that we are committed to retaining only the minimum capability necessary to deter potential aggressors. The process by which we make an assessment of our minimum deterrent requirements is described in paragraph 4-9 of the White Paper. We make an assessment of the minimum destructive capability that we need to be able to deliver in order to outweigh the potential benefits a potential aggressor might believe they would derive from an attack on our vital interests. This includes an assessment of the decision-making processes of future potential aggressors and of defensive measures that a potential adversary might employ in an effort to reduce the impact of the UK’s nuclear capability.

We are not prepared to release precise details of this assessment process because of the sensitive nature of the analysis involved and to maintain ambiguity over the circumstances in which we might consider use of our nuclear deterrent.

**12. The White Paper states that the concept of deterrence has not changed since the end of the Cold War and it outlines the underlying principles which shape the UK’s current approach to nuclear deterrence. Some witnesses to our inquiry questioned the continuing relevance of nuclear deterrence while others argued that it remained as relevant as it ever was during the Cold War. The Government should do more to explain what the concept of deterrence means in today’s strategic environment. (Paragraph 74)**

Paragraphs 3-6 to 3-12 of the White Paper describe the range of future risks and challenges that the Government has considered in taking decisions on the future of the Trident system, and the possible role we see for the UK’s nuclear deterrent in managing these potential future threats. The Defence Secretary expanded on the coverage given to this

issue in the White Paper in his speech at Kings College London earlier this year, when he said:

There are some who ... argue that it is not the threat but the concept of deterrence which is somehow outdated and no longer relevant in a post-cold-war world.

I do not accept this. I think it is unfortunate that the idea of deterrence has become so closely identified with the cold war. In its simplest terms, deterrence is about dissuading a potential adversary from carrying out a particular act because of the consequences of your likely retaliation. This is not an especially complex or unique concept. Nor does it have anything inherently to do with nuclear weapons, or superpower blocs. Our conventional forces are themselves a form of deterrent; they can and do deter various different kinds of states and non-state actors even in today's post-cold-war world.

The reality is that it is hard to be sure exactly what capability will deter any particular threat. The best we can do is aim to retain a broad spectrum of capabilities to enable us to respond to a range of potential threats. But there is a strong argument that nuclear weapons are unique in terms of their destructive power, and as such, only nuclear weapons can deter nuclear threats.

**13. The Government has stated that the UK will use its nuclear weapons only in “self defence”, in “extreme circumstances”, and in defence of the UK’s “vital interests”, but has not defined these terms. It argues that it is important to maintain ambiguity about the exact circumstances in which the UK might use its nuclear weapons. Although we understand the need for ambiguity, the Government should be clearer that this ambiguity does not lead to a lowering of the nuclear threshold. (Paragraph 81)**

There is no question of reducing the threshold at which we might contemplate use of our nuclear deterrent and we do not believe that there is anything in the White Paper which suggests that this might be the case. As we have made clear repeatedly, we would only ever contemplate use in self defence (including the defence of our NATO allies), and even then only in extreme circumstances. As the Committee recognise elsewhere in its report, the White Paper does not represent any change to the UK's nuclear weapons policy.

**14. The Government says it no longer uses the term “sub-strategic” in discussing the UK’s nuclear weapons. However, the White Paper refers to varying the yield of the UK’s nuclear warheads. We call upon the Government to clarify how a reduced yield differs from a sub-strategic role. The Government should also state why a sub-strategic role was thought necessary in 1998 but is no longer necessary now. (Paragraph 87)**

**15. The Government states that the UK’s nuclear deterrent will continue to be assigned to NATO. NATO nuclear doctrine, however, explicitly involves a policy of not ruling out first use of nuclear weapons and a policy of sub-strategic deterrence. We call upon the Government to clarify, in time for the debate and vote in the House of Commons, how the UK’s nuclear forces are integrated into the nuclear defence of NATO and what the implications of the Alliance’s first use and sub-strategic policies are for the UK’s nuclear deterrent. (Paragraph 90)**



UK and NATO nuclear doctrine are consistent. NATO's long-standing policy is neither to rule in nor rule out first use of nuclear weapons, in contrast to the claims of some witnesses to the Committee's inquiry. The UK's nuclear weapons remain committed to the defence of NATO as before and we will continue to participate fully in all aspects of NATO nuclear policy and planning.

Ever since the Trident system came into service, we have had some flexibility in the scale of any use of our nuclear deterrent. This flexibility stems from an ability to vary the number of missiles and warheads which might be used and the ability to employ a reduced yield from our nuclear warhead. We plan to retain this flexibility. We would not want any potential aggressor to judge that they could act with impunity towards the UK because they felt that we would be unwilling to deploy the maximum destructive effect possible with the Trident system. Any use of nuclear weapons by the UK would be in response to extreme circumstances but having a degree of flexibility in the potential scale of its use makes our deterrent more credible against the range of nuclear threats we may face in the future.

What has changed is the way in which we describe this capability and this is where we currently differ slightly from NATO terminology. We have previously described it as a sub-strategic capability. But we have decided to cease using this term for the simple reason that we believe any use of our deterrent will be strategic in intent and in effect.

**16. The Government acknowledges that there is no current nuclear threat to the UK but argues that nuclear weapons are needed as an insurance policy against an uncertain future. Some of our witnesses pointed to nuclear proliferation and noted that nuclear aggression could only be deterred by the possibility of nuclear retaliation. Others—including some who accepted the need for the deterrent—felt that the Government's analysis of the threat was vague, flawed and otherwise lacked logic, and many particularly expressed scepticism about the efficacy of the deterrent in countering state-sponsored terrorism. (Paragraph 100)**

The White Paper sets out clearly the possible future nuclear risks we might face, against the more general background of an uncertain future. These are the re-emergence of a major nuclear threat, the threat of emerging nuclear-armed states and the risks of state-sponsored nuclear terrorism. The White Paper is careful not to overstate the potential utility of nuclear weapons, especially in managing the threat from terrorism. Ultimately, we can never be sure precisely which factor might influence the decision-making of future potential adversaries, but we are clear that explicitly ruling out any possible relevance of our nuclear capability in specific scenarios needlessly weakens our deterrence posture.

**17. The Government states that the retention and renewal of the UK's nuclear deterrent is fully consistent with its international legal obligations. Some witnesses to our inquiry challenged the Government's position and suggested that the proposals in the White Paper may constitute a breach of the Nuclear Non-Proliferation Treaty and may be illegal under the UN Charter and international humanitarian law. The Government rejects this suggestion. None of the witnesses to our inquiry, however, believed that a decision to replace the Vanguard-class submarines would, in itself, be illegal, though some argued that the long-term retention of a nuclear capability, including the decision to extend the life of the Trident D5 missile, was inconsistent with the UK's obligations to pursue negotiations in good faith to achieve nuclear disarmament. (Paragraph 114)**

The Government remains clear that the position set out in the White Paper is fully consistent with all our international legal obligations and indeed that we continue to have an excellent record in terms of meeting those obligations, including those under the NPT.

**18. Witnesses to our inquiry accepted that, ultimately, decisions on the future of the future of the UK's nuclear deterrent were political and that, in the absence of consensus, legal concerns were unlikely to be decisive. (Paragraph 115)**

We believe that it is essential that the Government is clear as to the legal position with respect to maintenance and renewal of our nuclear deterrent. It would not be acceptable for the Government to take these decisions if there were any doubt as to the legal position. We are absolutely clear about the position and have set that position out in detail on many occasions, including in the recent White Paper and the supporting fact sheets.

**19. The White Paper states that the Government is committed to nuclear non-proliferation and to the ultimate goal of nuclear disarmament. It cites a variety of ways in which the Government has sought to achieve these objectives. Some witnesses to our inquiry, however, have argued that the White Paper gives insufficient attention to the implications of the Government's decisions for non-proliferation efforts. Some argued that the Government's proposals may actually encourage nuclear proliferation and undermine the authority of the Non-Proliferation Treaty. Others have argued that whether the UK opts for or against retaining its nuclear deterrent, the decision will have a negligible impact on global proliferation. (Paragraph 126)**

**20. The reductions in warhead numbers announced by the White Paper are significant disarmament measures, but, in themselves, they do not amount to a non-proliferation strategy. There is a need for a much stronger narrative on the forward commitment of the Government to achieve nuclear non-proliferation. The Government should not assume that current activities such as those mentioned in respect of the Norwegian 7 Country Initiative have a wide currency. The Government should explain how it will use its position at the Security Council, as the only nuclear weapon state with a single platform and 1% of the global arsenal, to give new momentum to what are widely perceived as stalled non-proliferation treaty discussions. Without a stronger narrative, the UK's decision to retain and renew its nuclear deterrent might be seized upon by would-be proliferators to justify their own efforts to acquire nuclear weapons, though it remains the case that any non-nuclear state which is a signatory to the NPT is in clear breach of its undertakings if it seeks to acquire nuclear weapons. (Paragraph 127)**

We do not agree that the White Paper gives insufficient attention to non-proliferation issues. The White Paper and the supporting fact sheets cover in some detail the UK's disarmament achievements, describe the role we play in multilateral disarmament negotiations and set out the measures we are taking to counter proliferation. On non-proliferation in particular, Fact Sheet 2 sets out elements of the UK's strategy aimed at tightening export controls, combating supply chains and preventing old or unused materials from falling into the wrong hands. This lists 11 discrete activities aimed at real, operational improvement to the non-proliferation regime.

We will work hard to foster positive engagement in the NPT Review process, and to strengthen all aspects of the Treaty by 2010. This will involve work on the peaceful use of nuclear energy as well as on non-proliferation and disarmament.

We do not accept the arguments of some commentators that the decisions set out in the White Paper might encourage nuclear proliferation. On the contrary, we see no evidence or indeed any likelihood that a unilateral decision by the UK to renounce its nuclear deterrent would have any effect on the ambitions of those states currently seeking nuclear weapons. We are convinced that multilateral negotiations remain the best route to nuclear disarmament.

**21. None of the witnesses to our inquiry was surprised the Government had decided to opt for a renewal of the submarine-based deterrent. Few of them considered the SSBN option was the wrong one. But, of course, a great many of them argued that the Government was wrong to renew the nuclear deterrent at all, and a few thought the Government's justification for its choice was inadequate. (Paragraph 131)**

This conclusion is noted. We agree that, having taken the decision to retain a credible, minimum nuclear deterrent, the case for retaining a submarine-based system is clear-cut.

**22. While many of our witnesses disagreed with the Government's decision to renew the nuclear deterrent, few challenged its choice of a submarine-based ballistic missile over other deterrent options. However, some have found the analysis of the options in the White Paper not to have explored fully the option of a nuclear-powered submarine carrying cruise missiles, noted as being the best alternative option. The Government should set out in more detail what were the comparative advantages of cost, range, operation and invulnerability associated with cruise and D5 missiles which led them to conclude in favour of the D5 missile. We believe the Government should offer further details of its assessment of deterrent options. (Paragraph 138)**

This point was covered in detail in the information sent to the Committee on 31 January, in which we said:

As for the option of cruise missiles launched from submarines, we are clear that, in both cost and capability terms, retaining the Trident D5 missile is by far the best approach. A comparison between cruise and ballistic missiles is set out in detail in Box 5-1 of the White Paper.

An option based on submarine-launched cruise missiles would, like the option we have decided on, require the procurement of new nuclear-powered submarines to fulfil the deterrent role, as the existing conventional role submarine flotilla, and the Astute class which will replace them, are required to undertake other key defence tasks. Indeed, given that a much larger number of cruise missiles, compared to Trident D5 missiles, would be required to meet our minimum deterrence requirements, moving to a deterrent based on submarine-launched cruise missiles could well lead to a requirement for additional submarine hulls.

Because of the costs and capability disadvantages of cruise missiles set out in the White Paper, we have not undertaken a detailed analysis of what the requirement for submarine hulls would be.

It is also the case that moving to a submarine-based cruise missile solution would necessitate the procurement of new nuclear-capable cruise missiles and also the development of a new nuclear warhead suitable for use with a cruise missile, both at considerable cost and technical risk. Thus, such an option would have significant disadvantages in both cost and capability terms compared with the option we have chosen.

**23. We welcome the Government's assurance that funding for the nuclear deterrent will not come at the expense of the conventional capabilities required by the UK's Armed Forces. However, the Government has not said how it would guarantee this, when expenditure on the deterrent is included in the defence budget. We call on the Government to specify in more detail how it will fulfil this assurance. It is important that additional funding is provided not only for the initial procurement costs, but also with any additional costs of maintaining the system in-service. (Paragraph 148)**

The Government made clear in the White Paper that the investment required to maintain our deterrent will not come at the expense of the conventional capabilities our armed forces need. Detailed decisions on the level of our investments in nuclear and conventional capability will be taken in the Comprehensive Spending Review, the results of which will be announced later in the year. The in-service costs of the current nuclear deterrent system already form part of the Defence budget. Once the new fleet of deterrent submarines comes into service, and during the transition from the current system, we expect that the in-service costs of the UK's nuclear deterrent, including costs at the Atomic Weapons Establishment, will be similar to those of today.

**24. It is important that Parliament be aware of the full costs of retaining and renewing the UK's nuclear deterrent before it is asked to agree to the Government's proposals. These costs include not only the acquisition costs for a new fleet of SSBNs, but also the costs of life extension, the costs of the missile and warhead programmes, the projected infrastructure costs, and the personnel costs of operating and maintaining the deterrent. The Government says that the overall procurement and infrastructure costs are £15–20 billion and that the annual running costs will be £1.5 billion at 2006–07 prices. (Paragraph 153)**

The White Paper set out in some detail our initial estimates of the potential costs involved and we have augmented this further in subsequent oral and written evidence. The Committee have rightly identified most of the areas where costs involved in sustaining our independent deterrent capability will be borne but, in addition, we have also included the estimated costs of the Atomic Weapons Establishment and the estimated disposal costs of submarines, missiles and related infrastructure. All the costs will need to be refined as work on the concept and assessment phases is taken forward with industry. More accurate cost estimates will be available by the time we come to place a contract for the detailed design of the submarines around 2012 to 2014. However, the information that we have so far been able to release is relatively comprehensive given that we are at a very early stage of the procurement process.

**25. The MoD proposes to embark on a life extension programme for the current Vanguard-class SSBNs, but has not offered a clear estimate of the costs involved in that**

**programme. The MoD should make it clear when it will be in a position to give more accurate estimates and what work needs to be done to achieve this. (Paragraph 154)**

In evidence to the Committee on 6 February, we estimated that the total costs for the 4-boat fleet of the planned life extension programme would be in the hundreds of millions of pounds. We will provide more detailed information to the Committee on the work required and the associated costs as it becomes available.

**26. The House of Commons should be aware that, even if it were to vote against retaining the deterrent, certain costs would be involved. These would include costs, such as onshore infrastructure, industrial costs, and regional assistance to the areas affected by industrial closures. The costs of investing in regions affected by any decision not to go ahead with renewal of the present deterrent should be estimated and included together with other costs so that those who argue there is an opportunity cost to other public expenditure can see what the full costs of such a negative decision are. (Paragraph 155)**

This conclusion has been noted. No further work in this area is planned now that Parliament has voted to support the decisions set out in the White Paper.

**27. The MoD states that it is not possible to provide precise estimates of the costs of decommissioning the Vanguard-class submarine. However, it says that £827 million is included in the MoD annual accounts for the decommissioning of nuclear powered submarines. Whether or not the UK decides to replace the Vanguard-class submarine with a new SSBN, the costs of decommissioning the Vanguard-class will still be incurred. This must be taken into account when considering the costs of retaining and renewing the nuclear deterrent. Equally, procurement of a new SSBN will, in time, mean that the MoD will incur ongoing decommissioning costs associated with the deterrent. (Paragraph 160)**

The MoD recognises that there are decommissioning costs associated with the Vanguard class submarines and that there will be costs in the future associated with the new deterrent submarines. The estimate of in-service support costs for the UK's nuclear deterrent, set out at paragraph 5-14 of the White Paper, includes those costs, both nuclear and non-nuclear, that have been identified for the current deterrent system and includes an allowance for the decommissioning of the future system. The Department's current estimate of the costs of nuclear decommissioning are included in the MoD Annual Report and Accounts 2005-06 (HC 1394). These liabilities include costs associated with the existing nuclear deterrent and will in future include the cost of nuclear liabilities associated with the future system, in line with normal practice.

**28. The Government says that the cost of UK participation in US plans to extend the life of the Trident D5 missile will be around £250 million. We call upon the Government to state whether any further expenditure will be needed to acquire the life-extended missiles over and above the initial buy-in costs to the life extension programme. (Paragraph 162)**

We have consistently made clear that the total costs to the UK of participation in the Trident D5 life extension programme will be around £250M at 2006/07 prices and exchange rates. These costs are in addition to the standard annual running costs for the

Trident D5 missile, which are included in the calculation of the overall running costs of the deterrent.

**29. The Government states that greater industrial collaboration and affordability are essential components in any new submarine programme and that it needs to address its own shortage of skills in managing a programme of the scale of a Vanguard successor. The MoD must ensure it has the skills necessary to deliver any future submarine programme to time and on budget. In the event of Parliament voting in support of the renewal of Trident, industry and the MoD must work together to drive down and control costs in order to deliver an affordable submarine programme. (Paragraph 169)**

We have little to add on skills and industrial capacity beyond the evidence given to the Committee by Lord Drayson in November 2006 and in our response to the Committee's second report on the Strategic Nuclear Deterrent. We agree on the need for Government and industry to continue to work closely together on this programme to drive down and control costs to deliver an affordable submarine programme.

**30. It is probable that a new generation of SSBNs could be designed to deliver a higher level of reliability and availability, and it is possible that this could allow continuous at sea deterrence to be ensured with only three boats. But it is also possible that the cost-savings would be small, and outweighed by the increased risk. The Government should clarify when a decision will need to be made on the number of boats in the new SSBN fleet, and what is the likely level of savings from doing without a fourth boat. (Paragraph 175)**

The cost savings that might result from a decision to procure only 3 boats are currently unquantified, although, as was made clear in the White Paper, we believe that they would not be in proportion to the reduction in the number of submarines, because, for example, of the large fixed overhead costs associated with the deterrent programme. A significant body of work needs to be undertaken to examine whether sufficient changes can be made to enable us to maintain continuous deterrent patrolling with a fleet of three submarines. This will be a complex piece of work. We will need to consider carefully the balance between initial procurement costs, through-life maintenance expenditure and the need to meet demanding operational requirements, as well as managing the potential for other unforeseen risks. Decisions on the number of submarines to be procured will be taken once this work has reached a sufficient level of maturity, although we would not wish to speculate further at this stage on precisely when that is likely to be. We have, however, made clear that we will not take irresponsible risks with the maintenance of our deterrent posture.

**31. The Government states that it is not yet possible to judge the potential costs of procuring a successor to the Trident D5 missile. Given that the Government intends to spend some £11-14 billion on new ballistic missile submarines, it is essential that any successor missile is fully compatible with the UK's future SSBN. (Paragraph 179)**

The Government fully recognises this issue, which is why the exchange of letters between the Prime Minister and the President, signed on 7 December 2006, explicitly covered this point. In his letter, the US President gave a clear undertaking that any successor to the D5 system should be compatible with, or be capable of being made compatible with, the

launch system for the D5 missile. More generally, the US also undertook to ensure that the UK has the option to sustain an effective nuclear delivery system for at least the life of our new class of ballistic-missile carrying submarines.

**32. We note the exchange of letters between the Prime Minister and the US President, dated 7 December 2006—printed in Annex 2 to this report—to effect collaboration in the life extension programme for the Trident D5 missile delivery system. Given this exchange of letters took place three days after the publication of the White Paper and before debate in Parliament about the replacement of submarine platforms to carry such missiles beyond the life of the current Vanguard-class submarines, we look to the Government to explain the effects, financial and otherwise, of this exchange of letters agreeing the extension of this part of the Strategic Nuclear Deterrent system. (Paragraph 180)**

There has been no formal commitment by the UK to the Trident D5 life extension programme but it would have been incoherent to ask Parliament to endorse the decision to procure replacement submarines unless we had received an assurance from the US that we could participate in the life extension programme. That was the intention behind the inclusion of this issue in the exchange of letters between the Prime Minister and the US President.

It is also the case that we plan that life extended Trident D5 missiles will be brought into service on the Vanguard-class submarines towards the end of their lives. Participation in the life extension programme is therefore important to enable us to maintain the existing deterrent until the end of the planned operational life of the Vanguard-class.

**33. The Government says that decisions on a new warhead will be required in the next Parliament. We call upon the Government to state whether the cooperation it envisages with the United States will include participation in the US Reliable Replacement Warhead Programme and why the UK could not re-manufacture warheads to the existing design. (Paragraph 182)**

Any programme to design and build a replacement nuclear warhead will be a UK national project. We will, however, continue to work closely with the US in this area, and, as part of this, explore the scope for collaboration between our future warhead programmes as our respective future plans develop.

As the White Paper makes clear, decisions on whether to refurbish or replace the existing warhead are likely to be necessary in the next Parliament, and work will be undertaken between now and then to review the optimum life of the existing warhead stockpile and analyse the range of replacement options that might be available. We also made clear that this work will include activities to be undertaken with the US.

The refurbishment option would require the re-manufacture of a number of warheads to the existing design, employing a combination of new and recycled components. There will be a range of factors that determine whether or not we decide to produce a warhead to a new design, including cost and our ability to certify the warhead stockpile in terms of safety and reliability. We will provide more information to the Committee as it becomes available.

**34. It would be helpful if the Government could confirm whether the timetable we suggest is accurate or in what respects it is wrong. (Paragraph 184)**

The table of future decision-making at paragraph 184 broadly accords with our assessment, although we would not be so definitive on the year in which the contract to build the first new deterrent submarines will be placed. Also, and as set out in the exchange of letters between the US President and the Prime Minister, we would not at this stage wish to rule out that the life of the Trident D5 missile might be further extended, beyond the early 2040s.

**35. If the White Paper's proposals to retain and renew the UK's strategic nuclear deterrent are endorsed, it is essential that the Government keep Parliament informed of the progress of the submarine, missile and warhead programmes. We expect Parliament to be consulted at each significant stage of the programmes before major procurement decisions are made. (Paragraph 185)**

In light of the further work which we will be undertaking, there will necessarily be decisions to be made in future, and the Government has made clear that it will be for future Governments and Parliaments to determine the right form of Parliamentary scrutiny and discussion of future decisions. In the meantime, the Government will continue actively to support scrutiny of the programme as it moves forward by the Defence Select Committee and the National Audit Office and Public Accounts Committee.

**36. The Government deserves to be commended for exposing its proposal to renew the strategic nuclear deterrent to public debate and decision in Parliament, which previous Governments have not done. We look to the Government to inform the House of Commons of any errors of fact or interpretation in this report, before the debate in March. And we hope that the Government, and the MoD in particular, will learn for the future that greater transparency is to its own, as well as to the public, advantage. (Paragraph 186)**

This recommendation has been noted. We are pleased that the Committee recognised the efforts that have been made to ensure that this decision-making process has been as open and well-informed as possible.

*17 May 2007*



## Appendix 2: Interim Government response

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### Letter from the Secretary of State for Defence to the Chairman of the Committee

I was very grateful that your Committee was able to publish its report on the recent White Paper on the Future of the UK's Nuclear Deterrent in good time before the debate and vote on 14 March. This will be of great benefit to MPs as they consider the issues in the coming week. With your agreement, I am also making this letter public prior to the debate by means of a Written Ministerial Statement.<sup>1</sup> We will of course respond fully to the report in the usual way in due course but I aim to address here the majority of issues raised in the Committee's report and to clarify some minor points.

First, the table of future decision-making at para 184 broadly accords with our assessment, although we would not be so definitive on the year in which the contract to build the first new SSBN would be placed. Also, and as set out in the exchange of letters between the US President and the Prime Minister, we would not at this stage wish to rule out that the Trident D5 missile might be further extended, beyond the early 2040s. Finally, Table 4 states that France maintains 3 deterrent systems, whereas in fact they only retain 2: submarine launched ballistic missiles and air-launched cruise missiles.

I would also wish to register three detailed points:

- i. It would be helpful to clarify Table 8 on costs and funding. The entries under "Decommissioning costs" are included elsewhere within the estimates: they are not in addition to the other figures.
- ii. There is an inaccuracy in Table 1 which is repeated in the second bullet of paragraph 9. We have said that the one submarine normally on deterrent patrol carries up to 48 warheads. We have also said that the number of missiles on that submarine is up to 16. But the 1998 Strategic Defence Review did not limit the number of warheads to be carried per missile to 3 and neither is that constraint imposed now.
- iii. Paragraphs 89 and 90 imply that NATO has a policy of first use of nuclear weapons. This is not true. As for the UK, NATO's policy is to maintain ambiguity by not ruling in or ruling out the first use of nuclear weapons.

More detailed responses to your conclusions and recommendations are set out in the attached Annex.

DES BROWNE

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<sup>1</sup> See HC Deb, 12 March 2007, col 1WS

## **ANNEX: Initial MoD response to the Defence Select Committee's Report: "The Future of the UK's Strategic Nuclear Deterrent: The White Paper"**

**Conclusion 7. Why are decisions required now on participation in the Trident D5 life extension programme?**

**Conclusion 28. What are the total costs of UK participation in the Trident D5 life extension programme?**

**Conclusion 32. What are the effects, financial or otherwise, of the exchange of letters between the Prime Minister and the US President agreeing UK participation in the Trident D5 life extension programme before the parliamentary vote?**

There has been no formal commitment by the UK to the Trident life extension programme but it would have been incoherent to ask Parliament to endorse the decision to procure replacement submarines unless we had received an assurance from the US that we could participate in the life extension programme. That was the intention behind the inclusion of this issue in the exchange of letters between the Prime Minister and the US President.

Subject to Parliament endorsing our decision, we intend that this will be a joint programme with the United States. We need to maintain this joint approach in order to achieve best value for money. The intention is to refurbish the whole stockpile of Trident D5 missiles by around 2020. In order to achieve this, we need to commit this year to the procurement of some long-lead items for the life extension programme.

We plan that life extended Trident D5 missiles will be brought into service on the Vanguard-class submarines towards the end of their lives. Participation in the life extension programme is important to enable us to maintain the existing deterrent in service until the end of its planned operational life.

The total costs to the UK of participation in the Trident D5 life extension programme will be around £250M. These costs are in addition to the standard annual running costs for the Trident D5 missile are included in the calculation of the overall running costs of the deterrent.

As the White paper indicated at paragraph 2-5, we do not believe that further procurement of Trident D5 missiles will be necessary through that missile's planned in-service life. The exchange of letters between the Prime Minister and President makes clear that one of the options for the future is jointly to investigate the possibility of a further programme to extend the life of the Trident D5 missile beyond the early 2040s to match the life of the new class of submarines that we now plan to procure. The possible costs, and technical feasibility, of a further life extension programme are currently unknown.

**Conclusion 11. How does the Government determine what constitutes a minimum deterrent?**

**Conclusion 10. What is the operational significance of the reduction in the number of UK nuclear warheads?**

The White Paper made clear that we are committed to retaining only the minimum capability necessary to deter potential aggressors. The process by which we make an assessment of our minimum deterrent requirements is described in paragraph 4-9 of the White Paper. We make an assessment of the minimum destructive capability that we need to be able to deliver in order to outweigh the potential benefits a potential aggressor might believe they would derive from an attack on our vital interests. This includes an assessment of the decision-making processes of future potential aggressors and of defensive measures that a potential adversary might employ in an effort to reduce the impact of the UK's nuclear capability.

We are not prepared to release precise details of this assessment process because of the sensitive nature of the analysis involved and to maintain ambiguity over the circumstances in which we might consider use of our nuclear deterrent.

We have made clear that we will reduce the number of operationally available warheads from fewer than 200 to fewer than 160 in the course of this year. The significance of that is that we will have reduced our number of operationally available warheads by 20% and will then dismantle these warheads.

We believe that, by any measure, dismantling around 40 nuclear warheads demonstrates our continuing commitment to reduce where possible our nuclear deterrent capabilities and to set an example to other countries who hold nuclear weapons to do likewise. It represents a further important step towards our goal of a world in which there is no place for nuclear weapons.

We have also reduced the number of warheads deployed on our single submarine on deterrent patrol. The Strategic Defence Review announced a reduction from 96 to 48 warheads and we made clear in the White Paper that 48 is now the upper limit on warhead numbers rather than necessarily the actual number deployed.

**Conclusion 13. The Government should be clearer that ambiguity over the potential use of the UK deterrent does not lead to a lowering of the threshold for nuclear use.**

We are absolutely clear that there has not been any reduction in the threshold at which we might contemplate use of our nuclear deterrent. As we have made clear repeatedly, we would only ever contemplate use in self defence (including the defence of our NATO allies), and even then only in extreme circumstances.

**Conclusion 12. The Government should do more to explain what the concept of deterrence means in today's strategic environment.**

The Defence Secretary covered this ground in more detail than in the White Paper in his speech at Kings College London earlier this year. He said:

There are some who .... argue that it is not the threat but the concept of deterrence which is somehow outdated and no longer relevant in a post-cold-war world.

I do not accept this. I think it is unfortunate that the idea of deterrence has become so closely identified with the cold war. In its simplest terms, deterrence is about dissuading a potential adversary from carrying out a particular act because of the consequences of your likely retaliation. This is not an especially complex or unique

concept. Nor does it have anything inherently to do with nuclear weapons, or superpower blocs. Our conventional forces are themselves a form of deterrent; they can and do deter various different kinds of states and non-state actors even in today's post-cold-war world.

The reality is that it is hard to be sure exactly what capability will deter any particular threat. The best we can do is aim to retain a broad spectrum of capabilities to enable us to respond to a range of potential threats. But there is a strong argument that nuclear weapons are unique in terms of their destructive power, and as such, only nuclear weapons can deter nuclear threats.

Paragraphs 3-6 to 3-12 of the White Paper describe the range of future risks and challenges the Government has considered in taking decisions on the future of the Trident system, and the possible role we see for the UK's nuclear deterrent in managing these potential future threats.

**Conclusion 14. How does a reduced yield differ from a sub-strategic role? Why was a sub-strategic role thought necessary in 1998 but is no longer required?**

**Conclusion 15. How does this square with NATO nuclear doctrine?**

UK nuclear doctrine matches that of NATO. The UK's nuclear weapons remain committed to the defence of NATO as before and we will continue to participate fully in all aspects of NATO nuclear policy and planning.

Ever since the Trident system came into service, we have had some flexibility in the scale of any use of our nuclear deterrent. This flexibility stems from an ability to vary the number of missiles and warheads which might be used and the ability to employ a reduced yield from our nuclear warhead. We plan to retain this flexibility. We would not want any potential aggressor to judge that they could act with impunity towards the UK because they felt that we would be unwilling to deploy the maximum destructive effect possible with the Trident system. Any legitimate use of nuclear weapons would be in response to extreme circumstances but, having a degree of flexibility in the potential scale of its use makes our deterrent more credible against the range of nuclear threats we may face in the future.

What has changed is the way in which we describe this capability and this is where we currently differ slightly from NATO terminology. We have previously described it as a sub-strategic capability. But we have decided to cease using this term for the simple reason that we believe any use of our deterrent will be strategic in intent and in effect.

**Conclusion 20. The Government should set out a stronger narrative on the forward commitment of the Government to achieve nuclear non-proliferation.**

The Defence Secretary also set out the position in detail during his evidence session with the Committee on 6 February:

Q386 Robert Key: Secretary of State, the United Kingdom is a signatory to the Non-Proliferation Treaty and the White Paper says that we are fully compliant with all our NPT obligations, and the White Paper goes on, "Nevertheless, we will continue to press for multilateral negotiations towards mutual balance and verifiable reductions

in nuclear weapons". What is the Government currently doing to press for those multilateral negotiations?

Des Browne: Mr Key, we not only say that; we actually set out in some detail in a fact sheet and an annex to the White Paper itself how we address our international legal obligations and particularly the nuclear Non-Proliferation Treaty, so there is no need for me to read that. In summary, and we have set out in the White Paper what we have done over the last ten years in dismantling our maritime tactical nuclear capability and the RAF's WE177 bomb, reduced the maximum number of operational warheads, and our ambition is to reduce that further, and ceased production of fissile material for nuclear weapons. We have in my view, and I think this has been recognised even in evidence before this Committee, a good record in living up to our international obligations in this regard. For the future, we continue to support and we have made progress in 13 practical steps towards the implementation of Article VI agreed in 2000; we have ratified the Comprehensive Nuclear Test Ban Treaty; we have increased our transparency by publishing historical accounting records of our defence fissile material holdings; we have pursued a widely welcomed programme to develop expertise in methods and technologies that could be used to verify nuclear disarmament; we have produced a series of working papers culminating in a presentation to the 2005 NPT Review Conference and, looking to the future, our priority remains to press for negotiations in the Conference on Disarmament of the Fissile Material Cut-Off Treaty; we welcome the draft text which the United States tabled last year; we are also concerned whether to accept the very broad mandate proposed and agree to open negotiations towards a treaty without delay, and we are also actively engaged in the global initiative to combat nuclear terrorism but we will be playing a key and active role in shaping and contributing to the forward-looking programme of this important new development. That is all to be read in the context of what we have already put into the public domain with the White Paper and in the accompanying fact sheet.

The key point to note is that any route to a world free from nuclear weapons must be a gradual and carefully managed process, taken forward incrementally and verifiably, ensuring we maintain balance, stability and security as we move forward. Implicit in this is the fact that this is a multilateral process and so we must also bring along our allies, friends and other interlocutors throughout the process. We see the negotiation of a Fissile Material Cut-off Treaty as the next logical phase for multilateral nuclear disarmament. This would be a positive step forward and is one we are pursuing energetically.

On 22 February, FCO Minister of State Dr Kim Howells gave a speech at the Conference on Disarmament reiterating the UK's commitment to the principles and practice of multinational nuclear disarmament and encouraging the multilateral community to rise to the challenges of nuclear disarmament. A copy of the speech is available on the FCO website.

**Conclusion 22. The Government should set out in more detail what were the comparative advantages of cost, range, operation and invulnerability associated with cruise and D5 missiles.**

This point was covered in detail in the information sent to the Committee on 31 January, in which we said:

As for the option of cruise missiles launched from submarines, we are clear that, in both cost and capability terms, retaining the Trident D5 missile is by far the best approach. A comparison between cruise and ballistic missiles is set out in detail in Box 5-1 of the White Paper.

An option based on submarine-launched cruise missiles would, like the option we have decided on, require the procurement of new nuclear-powered submarines to fulfil the deterrent role, as the existing conventional role submarine flotilla, and the Astute class which will replace them, are required to undertake other key defence tasks. Indeed, given that a much larger number of cruise missiles, compared to Trident D5 missiles, would be required to meet our minimum deterrence requirements, moving to a deterrent based on submarine-launched cruise missiles could well lead to a requirement for additional submarine hulls.

Because of the costs and capability disadvantages of cruise missiles set out in the White Paper, we have not undertaken a detailed analysis of what the requirement for submarine hulls would be.

It is also the case that moving to a submarine-based cruise missile solution would necessitate the procurement of new nuclear-capable cruise missiles and also the development of a new nuclear warhead suitable for use with a cruise missile, both at considerable cost and technical risk. Thus, such an option would have significant disadvantages in both cost and capability terms compared with the option we have chosen.

**Conclusion 25. The Government should make it clear when it will be in a position to give more accurate cost estimates and what work needs to be done to extend the life of the Vanguard class by 5 years.**

In evidence to the Committee on 6 February, we estimated that the total costs for the 4-boat fleet of the planned life extension programme would be in the hundreds of millions of pounds. We will provide more detailed information to the Committee on the work required and the associated costs as it becomes available.

**Conclusion 33. Why could the UK not re-manufacture warheads to the existing design?**

As the White Paper makes clear, decisions on whether to refurbish or replace the existing warhead are likely to be necessary in the next Parliament. The refurbishment option would require the re-manufacture of a number of warheads to the existing design, employing a combination of new and recycled components. There will be a range of factors that determine whether or not we decide to produce a warhead to a new design, including cost and our ability to certify the warhead stockpile in terms of safety and reliability. We will provide more information to the Committee as it becomes available.