



**BASIC**

# The Trident Commission

*An independent, cross-party  
inquiry to examine UK  
nuclear weapons  
policy*

## Concluding Report

*Sir Malcolm Rifkind MP   Lord Browne of Ladyton   Sir Menzies Campbell MP  
Professor Alyson Bailes   Sir Jeremy Greenstock   Lord Guthrie of Craigiebank  
Professor Lord Hennessy of Nympsfield   Lord Rees of Ludlow*

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BASIC in London

3 Whitehall Court

London SW1A 2EL

Tel: +44 (0) 207 766 3461 / 65

BASIC in Washington

1725 DeSales St., NW, Ste. 600,

Washington, DC 20036

Tel: +1 202 546 8055

[www.basicint.org](http://www.basicint.org)

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## Members of the Commission

**Lord Browne of Ladyton**, (co-chair) former Labour Secretary of State for Defence;

**Sir Malcolm Rifkind**, (co-chair) former Conservative Defence and Foreign Secretary;

**Sir Menzies Campbell**, (co-chair) former leader of the Liberal Democrats and Shadow Foreign Secretary;

**Professor Alyson Bailes**, Former Head of FCO Security Policy Department and member of the WMD Commission;

**Sir Jeremy Greenstock**, former UK Ambassador to the United Nations;

**Lord Guthrie of Craigiebank**, former Chief of the Defence Staff;

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BASIC is a small but influential think tank with one very large idea: we want a world free from the threat of nuclear weapons. A growing number of politicians, government officials and other decision-makers share our vision. We work constructively with them - and with others who are not yet convinced - to achieve our goals of nuclear disarmament and non-proliferation. We leverage our reputation as a respected, trusted and independent source of information, ideas and perspectives to inform debate and foster creative solutions.

BASIC is the only peace and security non-governmental organization that is British-American in composition and focus. We work on both sides of the Atlantic to encourage sustainable transatlantic security policies and to develop the strategies that can achieve them. We partner with other international NGOs that share our goals and we promote public understanding of the danger of growing nuclear arsenals.

For more information please visit our website: [www.basicint.org](http://www.basicint.org)

This report represents an agreed consensus of the members of the Commission, and does not reflect the views of the British American Security Information Council, its staff, or of the funders. BASIC assisted Commissioners drafting it and we stand resolutely by its publication as a valuable contribution to the debate in this country at this crucial moment in the renewal cycle. We hope that readers and commentators will not skim through it trying to find snippets in support of their existing views, or find fault on the basis of disagreement. Rather, we expect it to stimulate a deeper level of debate within the national security frame that is highly relevant to national decision-makers. We believe that even within this particular frame there are important considerations often underplayed.

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# Foreword from the Commission Co-Chairs

## Purpose of the Commission

This report arises from a review of Britain's current nuclear weapons policy at this most critical of moments, conducted by eminent members of the British political, security, diplomatic and scientific community. It represents an agreed consensus of the members of the Commission, and does not reflect the views of the British American Security Information Council, its staff, or of the funders.

There has been a strong case, in the national and international contexts, for conducting a fundamental review of UK nuclear weapons policy. We are living through a period of dramatic change in international affairs with new powers emerging, stubborn nuclear proliferation risks both within the community of states and potentially amongst terrorist groups, renewed commitments to multilateral nuclear arms control and disarmament, and growing financial pressure on defence budgets.

The last Labour Government committed itself in 2006-7 to renewing Britain's nuclear deterrent. The current coalition government re-committed to this decision in principle in its October 2010 Strategic Defence and Security Review (SDSR), but also decided to delay the timetable for the construction of the replacement submarines until after the next election, which must take place by May 2015. This has created a window of opportunity for further deliberation. Launched on 9 February 2011, the BASIC Trident Commission was convened to make the most of this opportunity by facilitating, hosting and delivering a credible cross-party expert examination of this issue in depth.

In contrast to previous international commissions that have focused on issues of global security and the need to develop multilateral steps towards nuclear disarmament, this Commission approaches the issue from the perspective of British national security and related national interests. Whilst it is certainly in Britain's interests to promote global security and stability, the limits to Britain's abilities to influence global outcomes, combined with the primary responsibility of the British government to defend its citizens against a variety of threats, have led this Commission to focus upon British rather than global security. Of course, the two are closely linked because successive British governments have recognised the special responsibility Britain holds as a global player and the formal and informal alliance relationships it enjoys with other states.

The debate in Britain over its relationship to nuclear weapons has a long pedigree, and owes much to individuals of all persuasions who have devoted much passion to it. Former Ministry of Defence (MOD) Permanent Secretary, Sir Kevin Tebbit, recently described Britain as having 'always been a reluctant nuclear power', and it is in this context that the Commission has been deliberating.<sup>1</sup> We acknowledge that the particular way we approach national security affects the conclusions that are drawn. Some may feel disappointed at the approach of the Commission in identifying threats and considering how relevant nuclear deterrence may be to them. We have tried to be comprehensive in doing this, knowing that ultimately there are no objective measures of threat and risk, but believing that being explicit about our assumptions gives people more of a chance to engage with us and to recognise their own.

It should also be noted that whilst the Commission has benefited greatly from the experience and access its members have, and from the contributions of all who provided background papers and evidence, it has not had the benefit of classified briefings and has relied on information in the public realm.

## Members

### **BASIC Trident Commission co-chairs:**

**Lord Browne of Ladyton**, former Labour Secretary of State for Defence;

**Sir Malcolm Rifkind**, former Conservative Defence and Foreign Secretary; and,

**Sir Menzies Campbell**, former leader of the Liberal Democrats and Shadow Foreign Secretary.

### **Other members of the Commission:**

**Professor Alyson Bailes**, Former Head of FCO Security Policy Department and member of the WMD Commission;

**Sir Jeremy Greenstock**, former UK Ambassador to the United Nations;

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**Professor Lord Hennessy of Nympsfield**, Queen Mary, University of London; and,

**Lord Rees of Ludlow**, Astronomer Royal and recent President of the Royal Society.

## Working method

The work of the Commission has been divided into different phases, each involving a mix of Commission meetings, research, written submissions of evidence,<sup>2</sup> specialist roundtables and larger public events.<sup>3</sup>

Commissioners met regularly during the past two years to analyse evidence submitted, discuss options and elaborate policy recommendations. BASIC serviced and assisted the Commission throughout the process.

The Commission focused on three questions in particular, namely:

**Should the United Kingdom continue to be a nuclear weapons state?**

**If so, is Trident the only or best option for delivering the deterrent?**

**What more can and should the United Kingdom do to facilitate faster progress on global nuclear disarmament?**

## Impact Objectives

Through events, the dissemination of publications, and media coverage, the BASIC Trident Commission has already stimulated informed discussion about the United Kingdom's nuclear posture, its role in the world, and the domestic consequences of taking various decisions around renewal of Britain's nuclear weapons system. Subsequent to the decision to hold the Commission, the government announced its own review of the nuclear weapons options available to it. This review was published in July 2013. It is hoped that the process around the Trident Commission and this final report will inform and stimulate further exploration of these issues, broaden the debates, and lead to a more inclusive and sustainable decision over Trident renewal.

Whatever the outcome of that decision, the United Kingdom will continue to have a role to play on nuclear disarmament and non-proliferation issues, and will continue to be impacted by global developments. It is hoped that the contributions of the Commission will prove useful for policymakers and opinion-shapers long after the final decision on renewal is made.

## Follow-up plans

This report is the culmination of this stage of the BASIC Trident Commission's work, but is not the end of the matter. Commissioners will be sharing their perspectives and the results of their deliberations in the media, at public meetings and in future parliamentary debate. The Commission also plans to revisit the issue and update its findings later on in 2014, prior to the next General Election.

## Thanks and Acknowledgements

Authors and Research Assistance

The Commission benefited from a number of expert reports produced specifically to examine developments that affect the decisions around Trident renewal. These reports were published in the name of the author, rather than in the name of the Commission as a whole.

**Dr Ian Kearns** reviewed the nuclear postures of other countries in *Beyond the UK: Trends in the Other Nuclear Armed States*;

**Professor Keith Hartley** evaluated the economic consequences of decisions to be made on Trident in *Defence-Industrial Issues: Employment, Skills, Technology and Regional Impacts*;

**Dr Bruno Tertrais** explored the nuclear relationship between France and the United Kingdom in *Entente Nucléaire*; and,

**Professor John Simpson** examined the nuclear relationship between France and the United Kingdom in *Deterrence, Disarmament, Non-Proliferation and UK Trident*.<sup>4</sup>

BASIC Executive Director Paul Ingram led on drafting this report and the servicing of the Commission with the able assistance of Rachel Staley and other BASIC staff and interns. Early drafts of this report were written with the assistance of Ian Kearns, Matthew Cavanagh, Ian Davis, Simon Heuberger, Tim Street, Philip Kirby, Emily Gade, Ben Thomas, Chris Lindborg, Maria Rivas and Antti-Ville Suni. The Commissioners and BASIC are grateful to all of them for their valuable input. The Commissioners take final responsibility for the content of this report.

The Commission would also like to thank Sir John Holmes, Director of the Ditchley Foundation, for his assistance in facilitating one of our crucial away-day meetings in 2013.

## Funders

The BASIC Trident Commission is grateful to many trusts and foundations that have provided financial support.

**Joseph Rowntree Charitable Trust**

**Ploughshares Fund**

**Polden Puckham Charitable Foundation**

**The Mulberry Trust**

**The Marmot Charitable Trust**

**The Network Foundation for Social Change**

**The Allan and Nesta Ferguson Charitable Trust**

**Nuclear Education Trust**

**The Westcroft Trust**

**The W.F. Southall Trust**



None of the funders had any influence whatsoever on the plans or operations of the Commission, nor on any content within this final report. Responsibility for the report rests solely with the members of the Commission.

## Outline of the report structure

The report structure follows the three questions we originally set out to ask, followed by a fourth question about what responsibilities Britain has to the international community and in the effort to stem and turn back nuclear proliferation.

Chapter One offers a critical examination of the case for continuing to rely on nuclear weapons for UK national security, and thereby attempts to answer the first question. It includes reflections on the strategic case, relevant financial considerations and technical and industrial factors. The Commission also assesses the importance of Britain's procurement decisions on its influence on the broader global security environment, which in turn has a direct impact upon national security. It concludes with the Commission's judgment on whether the UK should continue to rely on nuclear deterrence as a pillar of its national security.

Chapter Two addresses the second question over whether Trident is the best option for delivering the deterrent. It suggests criteria for the size, shape and posture of the United Kingdom's nuclear force, reviews alternative options, and looks at possible new ways of burden-sharing with France and/or the United States. It also notes the option of the United Kingdom moving to the status of a nuclear 'threshold state.'

Chapter Three addresses the third question, one of the most important of all – how can Britain best square the circle and promote nuclear non-proliferation and the moves towards a nuclear weapon-free world, if choosing to renew its own nuclear weapon systems?

Elements of this question will already have been considered in the first two questions, but this chapter pulls together proposals that might form a strategy for the UK. We consider the UK's nuclear role in the wider security order, and assess how the UK can act to improve its security through strengthening the global regimes that back it up, especially in the field of weapons of mass destruction. We discuss here Britain's responsibilities to the international community, and opportunities that exist to work with partners to build a collective global non-proliferation system that is practical and verifiable, and in which there are sufficient disincentives to cheat.

We have brought together the Summary Conclusions of our analysis at the beginning of this report, with recommendations on the future of the UK nuclear force. We have resisted the temptation to summarise these with top line conclusions; the issues are too complex, and our purpose in any case is to stimulate informed debate rather than simply highlight positions.

We are simultaneously publishing alongside this final report a number of background briefings written by separate authors that helped inform the Commission's thinking but that should not be seen as representing its views. Nevertheless, they do include some of the analysis that backs up our conclusions:

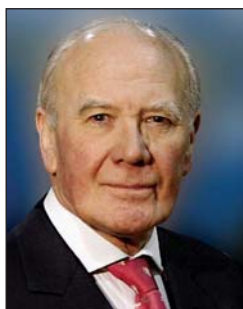
- 1) Global strategic security trends and their impacts on UK security
- 2) The relevance of deterrence
- 3) Measuring the financial costs
- 4) Threshold status as a step towards nuclear zero
- 5) Alternative delivery systems and their platforms

## Endnotes for the Foreword

- 1 Sir Kevin Tebbit, Royal United Services Institute seminar, September 2009, quoted by Lord Hennessy, in the inaugural Michael Quinlan Lecture with the Mile End Group, delivered 2 February 2011.
- 2 Submissions to the Commission are available online:  
<http://www.basicint.org/tridentcommission/evidencereceived>
- 3 For more information on BASIC Trident Commission events, please visit:  
<http://www.basicint.org/tridentcommission/events>
- 4 These reports are available online:  
<http://www.basicint.org/tridentcommission/reports>



Malcolm Rifkind



Ming Campbell



Des Browne



# Summary Conclusions

## The balance of consideration

### National security and the threat environment

We believe that the crucial consideration for the British government in deciding upon the renewal of its nuclear deterrent is national security. This does not, of itself, imply a predisposition to acquiring each and every capability to repel aggressors and potential invaders, but it does mean that we need to pay close attention to the relevance of possible emerging threats and to our national capacity to meet them in an effective manner. If there is more than a negligible chance that the possession of nuclear weapons might play a decisive future role in the defence of the United Kingdom and its allies, in preventing nuclear blackmail, or in affecting the wider security context within which the UK sits, then they should be retained. The impact of the UK's falling victim to on-going strategic blackmail or nuclear attack is so significant that, even if the chances appear slim today, there is sufficient uncertainty surrounding the prospect that it would be imprudent to abandon systems that have a high capacity to counter such threats.

We judge nuclear deterrence to be relevant to only a narrow band of potential strategic threats involving the threat or use of nuclear weapons by a state against the UK or its allies that could emerge in future. There is a possibility that we could witness a return to overt power politics, with new rivalries emerging or older rivalries re-emerging. Growing populations and increasing consumption of energy and resources, the effects of climate change and major damage to fragile ecosystems upon which we depend could all exacerbate pressures towards conflict, pressures likely to be intense in certain pivotal regions. Such a deterioration in the political environment is not inevitable, of course, and the goal of policy should be to avoid it, but there are a number of reasons to approach the future with caution.

Yet it is incumbent upon all states with nuclear weapons to exercise extreme care when considering the type of threats for which they may judge a nuclear deterrent relevant. Applying it to too many possible threats or being too ambiguous over its application weakens its credibility and risks increasing the motivation for other states to acquire nuclear weapons.

The Commission rejects the case for retaining a military nuclear capability as a general insurance against an uncertain future. We have to beware of the temptation to hint at ambiguous deterrent threats against circumstances for which we do not have alternative clear responses. To be credible, the threats that we make have to be realistic, which means they must be proportionate and we must be prepared to carry them out and accept the consequences. We also need to pay attention to the rule of law, which confines the act of threatening to use nuclear weapons to those circumstances where the very survival of the state is at stake.

### Three relevant scenarios

Most new and emerging strategic threats do not lend themselves to nuclear deterrence relationships between states. Considering all the predictable threats that could confront the UK, the Commission has concluded that there are only three credible possibilities for which the deterrent effect of an independent British nuclear capability might become decisive, though there were significant differences between our members over the relative probability of these threats arising and over the precise relevance of a British nuclear deterrent to each one.

The first is a re-emergence of a nuclear threat from a state with a significant nuclear arsenal and overwhelming conventional capabilities, and with an aggressive posture. The only current example of this possibility is Russia. NATO allies are currently reassessing their posture and capabilities, and there is uncertainty over whether and how an independent British nuclear deterrent could become relevant to the NATO-Russia relationship in future.

The second possibility is an existing or emerging nuclear-armed state that attains global reach and enters into direct strategic competition with the UK.

The third is the emergence of a future massive overwhelming threat involving bio-weapons or other comparable mass destruction technologies still unknown in which a state might consider the explicit use or threat of use against the UK, but be deterred by the UK's possession of nuclear weapons. It is theoretically possible that a future state-based bio threat could pose an existential threat to the UK, but we are a long way from that today.

## The Alliance

Much of the UK's domestic discussion has been in terms of independent national security, but the UK sits in a nuclear Alliance, enjoying its benefits and taking on its responsibilities. The UK has an on-going responsibility to NATO, and its nuclear weapons contribution remains a pillar of NATO's capabilities. We cannot expect the United States to shoulder indefinitely the awesome responsibilities that lie in providing extended nuclear deterrence to Europe, particularly if the United Kingdom were to abandon its own nuclear force. Though there is no cause for alarm today over the health of NATO and other close defence relationships, it may be risky to assume that these alliances will be as strong in the mid-21st century.

Based upon the two key specific considerations, namely national security concerns and responsibility towards the Alliance, the Commission has come to the unanimous conclusion that the UK should retain and deploy a nuclear arsenal, with a number of caveats expressed below. Most notably, it remains crucial that the UK show keen regard for its position within the international community and for the shared responsibility to achieve progress in global nuclear disarmament.

## Industrial and local economic concerns

There are a number of reasons often given for retaining nuclear weapons that we would consider irrelevant or unconvincing. Industrial and local economic impacts are important for the communities concerned, but cannot play a key role in determining whether the UK continues to deploy a nuclear deterrent. If a decision were taken that British possession of nuclear weapons were no longer necessary, investments could be made in alternative activities that could equally stimulate economic activity, though undoubtedly a few industrial communities would suffer.

## Cost

We are conscious that our conclusion—that the UK should retain and renew its nuclear deterrent—must be weighed against the considerable cost of renewing and operating Trident, a cost that is a rising proportion of the defence budget (as capital spending on the project increases and as spending on other defence capabilities reduces). Over the life of the project, it can be expected that capital, running, and decommissioning costs associated with the nuclear weapons project account for roughly 9-10% of the overall defence budget, though into the 2020s we will experience a higher spend, and after that a smaller amount. However, we believe that cost must be of secondary importance to the judgment over whether forsaking the UK's nuclear deterrent capability could open the country to future strategic risk.

## Status

British interests are heavily involved in global outcomes. However, the Commission does not think that the UK's status in the world is a compelling reason to retain its arsenal. If such reasoning was made explicit and shared by others, it would weaken international resolve in tackling nuclear proliferation. Indeed, British representatives should continue to downplay any linkage between status and possession, and consider ways to back this up. Whilst some may postulate that possession of nuclear weapons can provide the necessary confidence for military intervention, we have come to the view that it does not and should not enter into such calculations.

In terms of international diplomatic or strategic influence, the UK's continued possession of nuclear weapons would only be relevant to the specific objective of maintaining a seat at the nuclear disarmament negotiating table amongst nuclear weapon states. Though possession is not legally required for nuclear weapon status under the NPT (defined in historical terms), it is doubtful that the UK would retain continuing influence on the thinking or process of nuclear negotiations if it ceased all its nuclear weapon activities.

## Importance of global disarmament to national security

The level of strategic threat to the UK depends upon the health of the global security environment more generally, over which the UK and its allies have a degree of influence. Over the coming decades this will involve the evolution of our important bilateral and multilateral relationships with China, France, Russia and the United States. Strategic deterrence continues to play a stabilizing role in international relations, but we have a responsibility to look for ways to further the gradual and controlled movement in the international community away from relying upon the threat of nuclear annihilation for such stability.

Acting in concert with others (such as in the 'P5 process' and most importantly within the NPT process), the UK could significantly affect perceptions in these key states by providing an element of leadership in taking the steps towards multilateral disarmament, and by working collaboratively to strengthen international stability and nuclear non-proliferation. We consider these issues in further detail below.

# The glide path towards disarmament

## The need for disarmament

As a nuclear weapon state, the UK has a grave responsibility to maintain its arsenal safely and securely, and to be at the forefront of the multilateral disarmament process. Some fear that if the UK were to decide on a full like-for-like Trident renewal, giving the UK the same or better capabilities (with technological improvements) than those associated with the Vanguard submarines, and stretching out into the 2060s, we would risk transmitting the message that we are not serious about moving, with other nuclear weapon states, on the glide-path towards the elimination of nuclear weapons.

A world with fewer nuclear weapons and fewer states that possess them is not only a safer world if achieved in a stable and controlled manner, it would also be a very large gain directly for global security. A world with no nuclear weapons would be a bigger gain still. There are therefore direct advantages to be had in encouraging fellow nuclear weapon states to take concrete and transparent steps down the nuclear ladder together, keeping in mind the legal NPT obligations to achieve such steps. The UK should consider what further steps it can itself take down the ladder, and we would encourage the government to consider whether there are steps that could be taken now without additional risk to the security of the UK, assess the conditions that would enable the UK to take further steps beyond these, and develop proactive strategies that would support the emergence of these conditions. In the light of these conclusions, we outline below a number of our additional findings.

## Minimum deterrence

Since the end of the Cold War, successive British governments have judged it possible and desirable to reduce the complexity, scope, size and targeting of our nuclear weapons based upon their assessment of national security and interests, and any possible challenges to those interests. They have withdrawn all classes of tactical nuclear weapons, including free-fall bombs, so that those warheads assigned to the Trident ballistic missile submarines are the only nuclear weapons left in the arsenal. They are in the process of reducing the overall operational arsenal to 120 warheads and have lowered the operational readiness with the requirement that patrolling submarines be ready to fire within days of receiving notice. They have also given clearer security guarantees to non-nuclear weapon states in compliance with their NPT obligations. They have recognised that we have an on-going interest in reducing the level of tension with possible adversaries so that they too have a greater motive and comfort to reduce.

They have also acknowledged that we have a major, many-layered international obligation to contribute to the general cause of arms control and disarmament, alongside our efforts to prevent nuclear proliferation. Nevertheless, they have not considered it prudent to disarm the UK's nuclear arsenal given the nuclear danger that could yet resurface, and given the limited benefit to reducing global nuclear dangers such a step would have. We agree.

The number of warheads in the stockpile and deployed on submarines has come under regular review, and each time there has been a downward shift in the definition of minimum deterrent, on the basis of changed circumstances and evolving policies. The last time this was done was in the Strategic Defence and Security Review of 2010, and the reductions decided upon are still being followed through. We believe there would be a case for reviewing these numbers again at the point of the next SDSR in 2015, and for reassessing the targeting criteria that underpins the number of warheads, though we lack the technical information ourselves to reach our own conclusions. With the further development of warhead re-entry technology, the Moscow criterion – that the UK should have sufficient numbers of missiles and warheads to reliably penetrate the missile defences around Moscow – may no longer require larger numbers of warheads, and yet it continues to influence planning and posture.

## Alternative platforms and delivery systems

The government's Trident Alternatives Review considered the technical case for alternative platforms and delivery systems, concluding that at present there were no benefits to be had from choosing a different nature of system at this stage. The Trident SSBN (Ballistic Missile Submarines) system meets the criteria of credibility, scale, survivability, reach and readiness. Whilst the Commission is not in a position to interrogate in depth the information and assumptions underpinning the Review, we are opposed to proposals to develop alternative platforms and delivery systems, with new warheads, simply on the basis of possible but speculative cost savings. The choice of system and posture must be credible when considering national security and alliance relationships, and must embrace the UK's responsibilities to stability and the wider international community. Whilst dual-use systems have the benefit of adaptability to circumstances, we have serious concerns about their capacity to increase strategic ambiguity, which would both complicate arms control and cause confusion in crises.



## Declaratory policy

We believe that declaratory policy should flow out of decisions about the appropriate military posture for British security, and not the other way around. Nevertheless, the government itself recognizes that each responsible nuclear weapon state needs to act in such a way as to encourage the conditions for nuclear disarmament and to build transparency, trust and confidence between nuclear and non-nuclear weapon states.<sup>1</sup>

The SDSR 2010 explicitly identified declaratory policy, and specifically negative security assurances to non-nuclear weapon states parties to the NPT, as a means to achieve this. A tight declaratory policy is also seen by many non-nuclear weapon states as an obligation for all nuclear-armed states, who receive special, though temporary, recognition of their possession under the NPT. The UK could consider strengthening its negative security assurances to all states that we have no intention of threatening with UK nuclear weapons – in particular states that do not themselves possess nuclear weapons. The UK could give a less ambiguous assurance that it would not use nuclear weapons in response to chemical or biological attack, but adding that this would be subject to reconsideration were circumstances to change in regard to the biological weapon threat to the UK. The UK could also consider proposing an explicit mutual assurance amongst the nuclear weapon states that the only legitimate purpose for the possession of nuclear weapons is to deter the use or threat of nuclear weapons. Commissioners are sceptical of the credibility of a unilateral no-first use declaration, and concerned that there may yet be future scenarios that could emerge in which a state could threaten to overwhelm British defences or those of its allies. Nevertheless, we are interested in the possibility of the UK introducing such a no-first use discussion for multilateral dialogue amongst the nuclear weapon states within the P5 process.

## Relaxing the requirement for continuous at sea deterrence (CASD)

Some see a CASD posture as essential to any credible sea-borne nuclear deterrent that would meet the UK's needs into the foreseeable future. As a Commission looking ahead into a rapidly-changing world picture, we believe there are further steps that could be considered between the current posture and full disarmament, when the strategic conditions allow, with relaxed CASD as one of those steps. We are, however, divided over whether the UK could take this step independently, or only multilaterally with other nuclear weapon states.

Some of us believe that CASD should be maintained for the foreseeable future and that we must wait for improvement in the security environment, specifically a reversal of the current trends in the modernisation of nuclear arsenals elsewhere and stronger indications of a matching intent to disarm. Some of us believe that the strategic environment today, which does not involve a current or near foreseeable strategic military threat to the UK and its vital interests, enables us to drop continuous patrolling and retain instead the capacity to increase patrols should crisis threaten.

There is in any case an opportunity to initiate a full conversation with the United States and France on the conditions that could allow the allied nuclear weapon states to consider closer coordination of their continuous patrolling posture.

## The timetable for replacement

A number of advantages could flow – in cost, technology and diplomatic terms – from further delay in the renewal programme, if this were possible today or in the future without significantly endangering national security and the credibility of the UK's nuclear deterrent. We recommend the government assess the key influencing factors, and the costs and benefits of related options, and publicly report their technical assessment in advance of the Main Gate decision currently planned for 2016, to the degree this is possible without harming national security.

## Further steps down the nuclear ladder

The Commission would recommend that the Ministry of Defence study the steps down the nuclear ladder more thoroughly, to give greater confidence to the international community that we are considering such steps seriously in preparation for multilateral disarmament negotiations. Such steps might not only be further reductions in warheads or changes in posture and declaratory policy, but could also include further transparency and verification measures, treaty-based commitments to control and reduce stocks of fissile materials and their means of production, and refraining from certain forms of development or modernisation. This will require a more explicit articulation of the conditions necessary for the UK to have the confidence to take such steps, and of national and collaborative actions that could bring these about. The UK has adopted a stance of greater transparency since the end of the Cold War, with successive declarations of aggregate holdings of fissile material, warheads and platform postures.

It may be time now to raise confidence in the UK's commitment to a multilateral process by making a voluntary declaration, by taking part in many of the tagging and inspection procedures related to the bilateral US-Russian New Strategic Arms Reduction Treaty (START), and by inviting France and China to do so too. The Foreign Office could also work closely with the Ministry of Defence to explore with other nuclear weapon states within the existing 'P5 process' how to develop credible disarmament steps beyond the initial confidence-building measures they are presently discussing.

## Alignment with the United States and France

Decisions over future deployments and the degree of operational independence and posture are sovereign UK ones, but the relationship with the United States is critical to the maintenance of our nuclear programme and to the broader credibility of the UK's security and place in the world. The discussion about US attitudes towards the UK's nuclear posture is under-developed, and assumptions are all too easily made about reactions from Washington to possible decisions in London. We would recommend extensive open consultation with the Americans. This year's renewal of the Mutual Defence Agreement is an ideal opportunity to discuss this in advance of the next Strategic Defence and Security Review scheduled for 2015. Though there are many obstacles, there is also scope for discussions with the French about greater collaboration in future, not just in sharing nuclear research facilities. There are major sovereignty challenges to sharing operational control or patrolling, but both states should consider deeper strategic nuclear cooperation in future on the basis of shared values, strategic environment, and responsibilities to European and global security. Our confidence in the strategic relationship with the United States and France is a crucial variable in our consideration of further steps down the ladder.

## Renewed British diplomatic engagement

The UK has a good comparative record when it comes both to reducing its nuclear arsenal to a minimum and to initiating diplomatic moves to encourage discussion of nuclear disarmament. Nevertheless, we need to redouble our efforts with the nuclear weapon states, encouraging them not only to speed up the process of multilateral disarmament amongst themselves within the 'P5 process' but also to open this dialogue into a broader conversation around nuclear-related cooperation on safety, security, good governance, broad transparency, safeguards and other non-proliferation measures. Such a dialogue on the broader agenda has its own benefits, but will also facilitate progress on disarmament.

There has recently been a renewed interest amongst non-nuclear weapon states in the impact of the use of nuclear weapons, and in the responsibilities of those states that possess them. These have led to two major intergovernmental conferences in Norway and Mexico, with a third planned in Austria in mid-December 2014. States deploying nuclear weapons, including the UK, would do well to engage in this process and to use it as an opportunity to build a broader international understanding of the role of nuclear deterrence in the 21st century and of the need for further progressive global multilateral disarmament. This line of approach could form the basis for broader engagement with the rest of the international community, especially those outside the NPT who possess nuclear weapons, in developing the necessary regimes, procedures and norms to ensure strong global security based upon non-proliferation and nuclear disarmament. There are also important opportunities to establish minimum standards when it comes to important nuclear stewardship practice.

Reducing nuclear dangers through global diplomacy is in the direct security interests of the UK and our allies, and needs to remain a top priority in foreign and defence policy. Every nuclear-armed state must account for its explicit treaty commitments and its obligations to the international community when considering its national security posture, and its possession of nuclear weapon systems.

## Endnotes for Summary Conclusions

1 'Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review,' HM Government, CM 7948, 2010, pp.37-38, paragraph 3.6, [http://www.direct.gov.uk/prod\\_consum\\_dg/groups/dg\\_digitalassets/@dg/@en/documents/digitalasset/dg\\_191634.pdf](http://www.direct.gov.uk/prod_consum_dg/groups/dg_digitalassets/@dg/@en/documents/digitalasset/dg_191634.pdf)

# Chapter 1

## Should the UK continue to possess a nuclear deterrent?

### Introduction

The first question the Commission addressed was whether the UK should continue to deploy nuclear weapons. This chapter outlines the principal considerations the Commission considered appropriate. Every government's first duty is to protect its citizens and territory, and it is with that in mind that this chapter examines the choices facing the country, though it is equally important for it to consider the indirect impact of UK decisions upon global security.

### Historical legacy

Early decisions to develop and deploy British nuclear weapons in the Cold War were driven by both the Soviet military and emerging nuclear threats to Western Europe and an impulse to be ready for the day when the UK might again be standing alone in the face of an overwhelming aggressor. The UK's approach was also heavily influenced by a sense of global status, by the need to be treated seriously by the Americans and by a desire to re-establish the war-time working relationship with them, which had been abruptly curtailed by the 1946 US 'McMahon' Atomic Energy Act.

Several key decision-points during the UK's Cold War history and afterwards have determined where the country sits today.<sup>1</sup>

- 1) The first involved the British decision to join with the Americans during the Second World War in leading the race for the atom bomb. It was this collaboration that gave the British Prime Minister, Winston Churchill, some involvement in the decision in July 1945 to use nuclear weapons against Japan.
- 2) The second was the decision by the Attlee government to develop an independent British nuclear bomb, a decision made to ensure that the UK would be taken seriously by the United States. Churchill would later describe it as "the price we have to pay to sit at the top table".

- 3) The third set of decisions arose from moves to re-establish the close working relationship with the United States, in the Mutual Defence Agreement of 1958, the Nassau Agreement of December 1962 and the Polaris Sales Agreement of 1963. This last still governs the relationship today over the sharing of Trident missiles.
- 4) The fourth involved the decisions, considered first by Prime Minister James Callaghan and then taken by his successor Margaret Thatcher in the early 1980s, to purchase the new Trident system from the Americans and to host US cruise missiles at Greenham Common and Molesworth. (The cruise missiles were subsequently withdrawn after the Intermediate-Range Nuclear Forces (INF) Treaty was agreed with the Soviets.)
- 5) The fifth set of decisions occurred soon after the end of the Cold War, when tactical and legacy systems were withdrawn. Sir Malcolm Rifkind, then Secretary of State for Defence, announced in October 1993 the withdrawal of the WE177 free-fall bomb, and one of his successors, John Reid, announced the early completion of this withdrawal in March 1998, and as a result the UK became the sole nuclear weapon state to deploy only a single type of platform. This was based on a fleet of four domestically produced Vanguard-class ballistic missile submarines, containing US-supplied Trident ballistic missiles of intercontinental range carrying multiple independently targetable nuclear warheads manufactured at Aldermaston and Burghfield.

The British government today faces decisions on the renewal of this system. Rational decision-making must take significant account of capabilities established over the last seven decades. However, the past is a poor guide to the future strategic challenges that will face the UK over the next half century. The late Sir Michael Quinlan, former Permanent Secretary at the Ministry of Defence and widely-viewed as one of the principal architects of British government thinking around nuclear weapons in the 1980s and 1990s, explained the tendency to develop 'a set of rationales to clothe that gut decision' behind British nuclear weapons.<sup>2</sup> Future requirements demand a clean assessment of the changed strategic context.



## Official explanation of relevant threats

Nuclear weapons possession has been explained as a deterrent against specific threats. Both the 2006 White Paper and the 2010 Strategic Defence and Security Review (SDSR) divided these into four categories, namely:

- **Deterrence of aggression by major powers with large nuclear arsenals:** 'currently no state has both the intent to threaten our vital interests and the capability to do so with nuclear weapons'. However, the 2006 White Paper also stated: 'there are risks that, over the next 20 to 50 years, a major direct nuclear threat to the UK or our NATO Allies might re-emerge'.<sup>3</sup> The 2010 SDSR argued in a chapter on the future of the UK deterrent that 'a state's intent in relation to the use or threat of use of its capabilities could change relatively quickly, and while we will continue to work internationally to enhance mutual trust and security, we cannot rule out a major shift in the international security situation which would put us under grave threat'.<sup>4</sup>
- **Deterrence of aggression from an emerging nuclear/rogue state:** The 2010 SDSR noted the success of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) in limiting the number of states with nuclear weapons, but stated, 'we cannot discount the possibility that the number of states armed with nuclear weapons might increase'.<sup>5</sup> Again, this echoed the sentiments of the 2006 White Paper, which stated 'over the next 20 to 50 years, one or more states could also emerge that possess a more limited nuclear capability, but one that poses a grave threat to our vital interests'.<sup>6</sup>
- **Deterrence of state-sponsored acts of nuclear terrorism:** The 2010 SDSR stated 'there is a risk that some countries might in future seek to sponsor nuclear terrorism. We must not allow such states to threaten our national security'.<sup>7</sup> In doing so, it supported, albeit by implication, the line of reasoning set out in the 2006 White Paper, which stated: 'while our nuclear deterrent is not designed to deter non-state actors, it should influence the decision-making of any state that might consider transferring nuclear weapons or nuclear technology to terrorists... Any state that we can hold responsible for assisting a nuclear attack on our vital interests can expect that this would lead to a proportionate response'.<sup>8</sup>
- **A more general deterrent to preserve the UK's defence capabilities in an uncertain world:**<sup>9</sup> This more general deterrent beyond those above is captured in the Prime Minister and Deputy Prime Minister's Foreword to the 2010 SDSR in the following formulation: 'We will retain and renew our independent nuclear deterrent - the United Kingdom's ultimate insurance policy in this age of uncertainty'.<sup>10</sup>

As a result of these four categories of relevant threat, the government's official position is that:

*'As long as large arsenals of nuclear weapons remain and the risk of nuclear proliferation continues... only a credible nuclear capability can provide the necessary ultimate guarantee to our national security.'*<sup>11</sup>

As well as being a core strategic capability for the UK, the UK's nuclear forces are also dedicated to the North Atlantic Alliance, which was an original requirement for the Polaris Sales Agreement with the Americans.

Also, in the forward to the 2006 White Paper, former Prime Minister Tony Blair argued that the UK must have nuclear weapons to ensure 'that our capacity to act would not be constrained by nuclear blackmail by others'.<sup>12</sup>

*'The UK's continued possession of a nuclear deterrent provides an assurance that we cannot be subjected in future to nuclear blackmail or a level of threat which would put at risk our vital interests or fundamentally constrain our foreign and security policy options.'*<sup>13</sup>

Similarly, the 2010 SDSR argued that no other nuclear armed state or sponsor of nuclear terrorism should be allowed to threaten the UK, nor to 'deter us and the international community from taking the action required to maintain regional and global security'.<sup>14</sup>

## Our analysis of the global strategic threat environment

The Commission considered the range of future strategic environments and concurs with the government's belief that we face considerable uncertainty. The Commission would also agree that 'currently no state has both the intent to threaten our vital interests and the capability to do so with nuclear weapons'.<sup>15</sup>

Though the global numbers of nuclear warheads have reduced in the last two decades and the significance of nuclear weapons has been declining in western security postures, states in possession of them show no signs of giving up their attachment to them.

Both the United States and Russia possess large nuclear weapon arsenals, numbering around 1500-1800 deployed strategic warheads and a great deal more in storage, and are engaged in expensive modernisation programmes. Russia also possesses around 2000 tactical nuclear weapons.

Both states remain attached to at least maintaining parity with the other in numbers, though the US arsenal is more capable, particularly when considered alongside its development of missile defence, prompt global strike and other emerging conventional systems. Russian leaders see the nuclear arsenal as a means to make up for the nation's weak conventional forces in relation to NATO and to China, after their sharp decline after the end of the Cold War. How these forces might develop or deteriorate in the distant future remains uncertain.

Sitting outside this bipolar confrontation, China has a limited arsenal with only a handful of intercontinental ballistic missiles and a low-readiness posture. This could change with its modernisation programme.

Whilst there are considerably fewer nuclear weapons in the world than there were at the end of the Cold War, those states that have since acquired them are less stable and sit in more turbulent regions. Some do not have well-established or predictable command and control systems.

In Asia nuclear weapons are becoming more, not less, relevant to the defence postures of key states, and the possibility of a nuclear exchange remains potent. India and Pakistan exist with China in a complex and dangerous nuclear triangle, one that already has elements of instability and could deteriorate. This is widely seen as the most unstable of the nuclear balances in the world, where some decision-makers appear to be ready to use nuclear weapons in a serious war-fighting capacity. The consequences of a nuclear exchange in South Asia on global security would be far-reaching.

Pakistan presents a particularly acute threat to international stability, because there are credible and serious doubts as to the efficacy of its nuclear governance. The military in charge of the arsenal is insulated from political supervision. And yet there remain questions over Pakistan's nuclear security, command and control, in the context of a country where control over territory, particularly on the border with Afghanistan, is unclear. If there were a release of a nuclear device within or from Pakistan and a breaking of the nuclear taboo, the implications for global security and stability would be enormous, with highly unpredictable outcomes.

North Korea has presented a particular and peculiar challenge to the international community. Originally a full member of the NPT and therefore bound by its stipulations, North Korea demonstrated the importance and the difficulty of verification and enforcement by cheating on the treaty and developing a nuclear weapon capability under the cover of a civil nuclear programme.

Whilst today its nuclear weapon capabilities are limited and constrained, its march forward technically continues despite sanctions and isolation, and any success in rolling back its programme appears to have been elusive.

This last decade, attention has focused on Iran's nuclear programme. Though the election of President Rouhani in 2013 and the Joint Programme of Action agreed in November 2013 have been causes for hope, in the longer term there remains a debate within strategic circles as to whether the international community will eventually adjust to a traditional nuclear deterrence relationship with the Iranians were they to develop an arsenal. This would alter the balance of geo-strategic power in the region, and neighbouring states, particularly Saudi Arabia, might choose to respond in a manner that could threaten a destabilising nuclear arms race.<sup>16</sup>

There remains the possibility of the emergence of threats from states that develop a nuclear capability with global reach, that reject established norms of nuclear deterrent behaviour, and that could see some advantage to using those capabilities in unpredictable ways.

In addition, North Korea has been a source for other states' acquisition of technologies relevant to strategic capabilities – nuclear, missile and others – a situation likely to be exacerbated by the more acute economic pressures on the country. The proliferation of such technologies presents a particularly chronic threat to control within normal international exchanges, particularly when combined with hostile or suspicious postures from countries on the margins of the international community.

Stability is also undermined by international terrorism, particularly from Al Qaeda and other affiliates inspired by it. It is probable that future UK and allied governments will want to intervene abroad, particularly in North Africa and the Middle East, to tackle the drivers of this terrorist activity. The threat of terrorist attacks using some form of chemical, biological, radiological or (less likely) nuclear weapon in the coming decades is assessed as significant.<sup>17</sup>

Chemical weapons have recently come to public attention through their use in Syria; and though they have not yet been used in quantities that cause mass casualties, they have significant local impact. While the biological field remains under-developed up to now and is beyond the scope of this report, the possibility of a major threat from biological agents emerging is real. The potential strategic and casualty impact from deliberate release of certain biological organisms could be devastating, on a similar scale to a limited nuclear war. This is all the more worrying for the fact that the rapid development of biochemistry and related technologies brings such a capability into much wider reach.

There is also increasing concern about the future of cyber attack, which could in the longer term have devastating strategic impacts on national viability, though we are some way away from the possibility of an emergence of a cyber threat that could result in mass casualties of any similar proportion to those threatened by nuclear weapons use.

## The relevance of these threats to UK nuclear deterrence

This section looks at the strategic threats raised in the previous section and judges the effectiveness and relevance of a nuclear deterrent in responding to them. Nuclear weapons are claimed to be a general insurance policy against an uncertain world. While this holds instinctive appeal, there are significant conceptual challenges in practice to maintaining a general capability to inflict massive punishment when the threats are unspecific. The Commission believes that every effort should be made to specify exactly what possible types of threat could arise for which an independent UK nuclear deterrent would be relevant; and upon careful consideration, we have concluded that the range of such threats is narrow.

The Commissioners have carefully assessed the range of potential threats, possible future alliance relationships, the evolution in the salience of nuclear deterrence, and changes to global governance, and have concluded that on balance, in conditions of great uncertainty and despite the costs, the UK should retain its nuclear deterrent. But a British nuclear deterrent is not relevant to all strategic threats, and we believe it important to be clear about which are relevant and which are not.

Nuclear deterrence is only relevant to strategic threats that emanate directly from a state with significant military capabilities and unpredictable intent that is capable of being deterred from, and then desisting from, carrying out that threat against the UK.

For deterrence to work, the state or states concerned must receive, and understand, a clear and credible message about the UK's capability and intent to use its own nuclear weapons in the appropriate circumstances

The threat of use of nuclear weapons needs to be credible, and thus both proportional to the threats that it seeks to deter and supported by statements and actions prior to any crisis in which the nuclear deterrent may become relevant.<sup>18</sup>

## Re-emergence of a past nuclear threat

The United Kingdom and NATO have in the past been in strategic competition with the Soviet Union; and Russia, as its principal successor state, still wields an overwhelming nuclear arsenal.

Russia's military actions in Georgia in 2008, and particularly when it annexed part of Ukraine in 2014 (the territorial integrity of which Russia had made an explicit commitment in 1994 to uphold), demonstrate that it presents a threat to order and security in that part of Europe. In response to Russian actions in Ukraine, the UK Government and its European and NATO allies have indicated that a comprehensive reassessment of their assumptions about Russian intentions will be necessary. Russia under its present administration has shown a willingness to use the threat of military force to preserve its perceived strategic buffer zone around the Russian Federation, and to shape the internal affairs of a sovereign country to conform with its desires. It may yet be true that Russian elites will come to see their longer-term interests in terms of partnership and integration with Europe and the rest of the international community, or that their ambitions will otherwise be contained. However, recent events strengthen the case for the NATO allies to maintain their capacity to deter Russia from considering nuclear blackmail in pursuit of its political objectives.

## New emerging state nuclear threats

Though it clearly has global interests, the UK no longer possesses the major strategic presence it once had in many parts of the world, particularly in Asia and Africa. This means that strategic confrontation with China or other Asian states is highly unlikely, though it cannot be entirely discounted. The UK could conceivably be drawn into conflict with China alongside the Americans, but even then it is not clear what role British nuclear weapons could have. India will not directly threaten the UK with its nuclear capability, and neither will Pakistan. Pakistani nuclear weapons could conceivably be delivered onto the UK by a third party, but this scenario is considered in the category of state-sponsored terrorism below. Israel's nuclear arsenal does present a major challenge to regional arms control in the Middle East and to the universalisation of the NPT, and as such is a difficult and critical obstacle to realising the essential global non-proliferation agenda. But it is no direct threat to the UK.

Whilst London is almost as close to North Korea as Seattle is, the United Kingdom plays little role in the tension there and has a low strategic footprint in the region, so that North Korea is also not considered a major threat relevant to the choices over deployment of a British nuclear deterrent.



Iran is a regional power with a regional security focus, and it is unlikely that its leaders have the global ambition to threaten a massive attack against Europe or the UK, unless perhaps it were to deter a strategic threat to themselves. If any active Iranian nuclear missile threat were to emerge to Europe specifically, it could be contained by a combination of European conventional capabilities, some form of missile defence and US extended nuclear deterrence, supplemented by the UK and France. Only in those circumstances could a UK nuclear deterrent possibly be relevant. The more likely threat from an Iranian bomb would be to regional strategic balances within the Middle East. The UK does not have an extended nuclear deterrence role within the region, and there is very low probability of one developing. We conclude therefore that any further development of a nuclear programme in Iran, were the current developments to take a turn for the worse, is not a reason on its own for Britain to retain a nuclear deterrent.

### **Nuclear terrorism, chemical and biological weapons**

Though it was deemed a potential relevant threat in the 2006 Defence White Paper, Commissioners consider it unlikely that UK nuclear deterrence would be credible as an element of defence against nuclear terrorism, in any realistic scenario, unless it were clear that a state were deliberately enabling a non-state actor to deploy nuclear weapons. The level of proof required, not only in sourcing the nuclear material but in showing clear intent from the sponsoring state, would need to be extremely high to justify a nuclear retaliatory response.<sup>19</sup> It stretches the credibility of nuclear deterrence beyond its limit to threaten another state with nuclear reprisals for actions over which it does not have direct control.

Many of the same challenges apply to chemical and biological weapons. Chemical attacks could never achieve a similar scale of impact to justify a response with nuclear weapons and are therefore not directly relevant to nuclear deterrence. The level of proof required for attribution for biological attacks is likely to be extremely challenging (it is highly unlikely that the method of delivery would be by conventional military means), and nuclear deterrence could not be used to force other states to tighten up their procedures. We are not, however, in a position to definitively discount the future emergence of a biological threat that could be deterred by the UK's possession of nuclear weapons, not least because of the widespread impact such weapons could have in future.<sup>20</sup>

Chemical, biological and cyber threats also raise the issue of resilience as perhaps a more critical response to rising threat levels. Spending on effective preparations to respond rapidly to such attacks could both reduce casualties and other impacts, and make them less appealing to would-be aggressors.

## **Deterrence and global governance in the 21st century**

We have reviewed in detail the likely international security environment that policy-makers may have to deal with into the future: major power shifts, huge population pressures, climate change, persistent and visible problems of poverty and inequality, terrorism and transnational crime, conflict and state failure, in the context of complex and vulnerable physical and virtual infrastructures, increased power in the hands of non-state actors, new domains of conflict and new types of weaponry. Effective measures to reduce competition and conflict arising from such an environment require cooperative international approaches and strong international institutions that address the specific character of the issues.

The military capability of any one state is not likely to provide a general reassurance for all circumstances, and we should be cautious about apportioning too much theoretical stabilising power to our own nuclear deterrent.<sup>21</sup> A national strategy that prioritises a self-sufficient approach over a multilateral agenda could dangerously hasten the demise of international institutions upon which our security depends. Unilateral approaches, either to further develop advanced military capabilities without sufficient regard to their impact on global relationships, or to abandon strategic relations on the basis of maintaining some sort of purity or isolation, should be viewed with suspicion.

It has been argued that the UK's nuclear deterrent backs up our ability to intervene abroad. Whilst the Commission strongly supports an active engagement in the world, we felt uncomfortable with the description of nuclear weapons as a shield behind which the UK could engage in military operations abroad. Those with experience of these decisions as ministers did not recognise the UK's nuclear weapons as playing such an assurance role in practical terms, nor did they play any part in key decisions on whether to intervene. If the UK explicitly were to acknowledge such a role for its nuclear arsenal it could encourage proliferation in other countries. As a result, the Commission does not support this justification for the UK's possession of nuclear weapons.

There remains no legal or practical connection between the permanent membership of the Security Council and those states recognised by the NPT as nuclear weapon states. In respect of the NPT, recognised Nuclear Weapon States are defined as those (five) states that had tested a nuclear device prior to 1st January 1967. Consequently, any nuclear weapon state that ceased to deploy a nuclear arsenal in the future would still retain its status. There are therefore no strong arguments for nuclear weapon possession arising out of questions of global status.

We cannot ignore the established international order based upon strategic deterrence relationships. In moving towards nuclear disarmament we will have to tread very carefully in order to minimise the dangers of pulling the fragile foundations of international stability away, or the great powers will once again be drawn into major global conflict. The experience and habits associated with nuclear deterrence continue to play a stabilising role, though with some risk if any great power could still be tempted to see strategic force as a means of achieving aggressive ambitions. Other nuclear-armed states outside the NPT, in the process of building up their arsenals, need to be brought urgently into stable deterrence ways of thinking.

It is unlikely, however, that we will succeed in holding the line indefinitely as long as nuclear weapons continue to play a major role in calculations of power. A world awash with nuclear weapons in the hands of a larger number of states is a highly dangerous one, a more volatile international environment in which the use of nuclear weapons would become much more likely. The control of strategic relationships through careful diplomacy could become even more challenging than it is today.

The awareness of global dangers arising from the spread of nuclear weapons has led many former statesmen and strategists, several of whom were key architects or advocates of the Cold War machinery controlling nuclear weapon systems, to call for a much more serious multilateral effort to achieve a world free of nuclear weapons, one that the Commission fully supports.<sup>22</sup> This has involved an appeal to the nuclear weapon states to work together in a joint enterprise to reduce the salience of nuclear weapons in their strategic postures as a crucial step in addressing the divisions between the great powers and to find collaborative ways to move away from a dependency upon nuclear deterrence. This could extend towards greater strategic cooperation across the whole range of conflict, nuclear and conventional, and other shared security challenges.

Efforts to strengthen the global non-proliferation regime and the multilateral nuclear disarmament agenda are crucial in strengthening British national security. This is a strong argument for showing strategic restraint when renewing the UK's capability in the next generation of system and for indicating a clear intent to move towards nuclear disarmament as part of a multilateral effort, rather than as an autonomous step to abandon its nuclear arsenal.

The UK, balanced between the retention of a credible nuclear capability and its responsibility to promote international peace, should build upon its current position of supporting the vision of a nuclear weapon-free world. It should explicitly recognise the relevance of that vision to its own nuclear arsenal, and the need for all nuclear-armed states, including the UK, to reduce their holdings of nuclear weapons over time, and to outline their determination to contribute towards the conditions that will enable nuclear armed states to relinquish them.

In the post-9/11, post-7/7 interdependent world, threats to national and international peace and stability can now come from almost anywhere and affect almost anyone. They are, consistent with the UK government's view, also best handled by a collective international response based on universal values. This has meant a willingness to intervene in certain dangerous conflict environments, such as those in Sierra Leone, Kosovo, Afghanistan, Libya and, more controversially, Iraq; while there is a reluctance to intervene in others, such as Syria. The UK upholds an explicit commitment to international law, to the development of international regimes that strengthen stability, security and peace, and to prioritising human security and the responsibility to protect.

Such is the UK's commitment to this wider foreign policy role that defence policy is now shaped to a considerable degree by its requirements: to regional stability, counter-insurgency, counter-terrorism and conflict stabilisation.<sup>23</sup> The 2010 SDSR announced that in future the Armed Forces as a whole would be sized and shaped to be able to conduct interventions abroad, and would invest in flexible and technologically advanced capabilities, precision weaponry and unmanned and cyber capabilities, while scaling back legacy capabilities less likely to be needed in future conflicts.<sup>24</sup> The Commission believes that these particular challenges are not relevant to our possession of nuclear weapons, except conceivably in respect of the funding of the whole range of the MoD's requirements (see section below).

## Alliance relationships

The 2010 SDSR stressed the centrality of alliance relationships and partnerships to the future of UK defence. 'Internationally', the government said, 'we rarely act alone', and on that basis it set out five priorities for essential international engagement to strengthen future UK security:<sup>25</sup>

- Our pre-eminent defence and security relationship with the United States;
- NATO as the bedrock of UK defence;
- New models of practical bilateral defence and security cooperation with a range of allies and partners;
- An outward-facing European Union that promotes security and prosperity; and,
- An effective and reformed United Nations.

### Burden sharing and the special nuclear relationship

NATO provides members the guarantee that an attack on any one of them will be treated as an attack on all.<sup>26</sup> Member states increasingly depend upon the Alliance for their military defence, and perpetually high defence inflation rates and shrinking defence budgets could speed up joint 'smart' procurement and improve inter-operability. However, the downside is that allies might not all pull their weight.<sup>27</sup>

UK nuclear weapons still play a role in the UK's formal and informal alliance relationships. The original Polaris Sales Agreement of 1963 with the United States explicitly made reference to the purpose of UK nuclear weapons as contributing to Alliance requirements.<sup>28</sup> In the Cold War it provided a second centre of nuclear decision making that complicated Soviet calculations, and thus enhanced the collective security of the Alliance. How important this would be in future is a matter for discussion. Successive versions of NATO's Strategic Concept in 1991, 1999 and 2010 have explicitly stated that the UK's independent nuclear forces contribute to the security of its allies.

The UK's nuclear weapons might even have a potential significance in the EU context, since the Lisbon Treaty introduced a new EU provision on mutual assistance in the event of armed aggression against a member state that appears to be even stronger than NATO's Article V.<sup>29</sup> While such assistance would not necessarily include nuclear weapons, the wording of the treaty does not rule them out.

It is clear, however, that Alliance members value the US nuclear contribution well above the UK's, principally because of its size and variety and because of the explicit and well-established extended deterrent role frequently referred to by representatives of successive US Administrations and members of Congress. The UK is bound to remain in the shadow of the United States in terms of its provision of extended nuclear deterrence towards Europe and further afield, and its strategic salience is marginal. However, the UK nuclear deterrent is seen by many within the United States and in the rest of the Alliance as an important and highly symbolic contribution to balancing the transatlantic nuclear burden. There is a growing frustration within the United States with its European allies and their shrinking military capacity to operate meaningfully alongside them.

This debate is often expressed in terms of European military spending, the quality of that spending and the capabilities that are developed in practice. Some have speculated that there may be a substitution to be had, and that a higher level of conventional capability, particularly in expeditionary or special forces, could be more useful to the United States than an independent UK nuclear capability.<sup>30</sup> The United States might have been happy to extend an effective nuclear umbrella to a UK that had never possessed nuclear weapons, but if the UK renounced its nuclear responsibilities to NATO this could have a significant impact on US confidence in the UK and Europe, and could undermine the cohesion of the Alliance as a whole.

The UK and US nuclear weapons programmes have developed together and, whilst the US Trident programme dwarfs the British one, there would be a technical, scientific and an economic impact on the United States were the UK to pull out of the joint project. Aside from the loss of collaborative projects, such as the Common Missile Compartment, and the end of scientific and technical exchanges, there might be a number of other political and diplomatic consequences.

The relationship with the United States operates at the heart of the UK's foreign policy. The UK would need to consider very deeply any possible negative impacts upon it from a shift in its nuclear weapons policy or procurement choices.



## The UK as consumer of the US extended deterrent

If the UK were to face major strategic threats, going beyond its capacity to respond with its conventional capabilities, would it stand alone or could it depend upon the US? Will the relationship with the US retain its strength out to the mid-21st century, to the extent that the UK can safely rely upon it for extended nuclear deterrence against the emergence of any strategic threats?

The US has developed sophisticated and multi-dimensional extended deterrence with allies all over the world. It has been the principal guarantor of strategic security to many of its allies for seventy years. Talk of its decline in the 21st century is almost certainly premature. In the absence of some improbable, new, unpredictable discontinuity, the US will remain a potent economic, political and military force in global politics well into the second half of the 21st century, capable of meeting any strategic global challenge should it choose to do so.

In a global strategic contest of wills, the United States might very well continue to see its alliance relationships cemented by extended deterrence as an important global tool of diplomacy and continued power protection. Those leading the nuclear debate in Washington today in defence of the status quo cite as their principal reason for opposing further reductions in US strategic forces the allies' concerns over going too far too quickly in efforts to pursue disarmament with Russia.<sup>31</sup>

Whilst under President Barack Obama, US nuclear weapons policy has undergone significant change. In particular, in prioritising multilateral nuclear disarmament, he has reiterated the US commitment to extended nuclear deterrence. 'Make no mistake: as long as these weapons exist, we will maintain a safe, secure and effective arsenal to deter any adversary, and guarantee that defence to our allies.'<sup>32</sup> This was later codified formally in the Nuclear Posture Review and the 2010 National Security Strategy.<sup>33</sup> The concept of US extended deterrence and associated assurances to allies appears to be as politically strong in Washington today as they ever were, even when there have been withdrawals from the US arsenal of particular associated weapon systems (most recently the nuclear-tipped tactical naval cruise missiles previously allocated to the Pacific theatre).<sup>34</sup> The US might increase its military presence in Asia in the future, but it seems highly unlikely that this would happen at the expense of strategic nuclear guarantees to its allies elsewhere.<sup>35</sup>

So far so good in the present, but can we rely upon the United States to possess the capability and the will to provide such an extended cover indefinitely, at least out to the mid-21st century? Extended nuclear deterrence is inherently problematic in any case, requiring the sponsor to risk their own cities' destruction to protect an ally whose actions they may not agree with. It might be difficult today to imagine circumstances where the United States would cease to have a strong interest in the strategic survival of Europe. Yet, to judge from Europe's experiences at the start of the first and second world wars, this doubt is related to the possibility that isolationist tendencies that have always existed within the United States could strengthen again. US interests are different from British or European ones. We cannot in the UK burden the United States with the indefinite expectation of their role as godfather and protector.

The question of a continuing US commitment into the indefinite future is ultimately unanswerable, and it is this uncertainty that causes discomfort within the Commission over the idea of relinquishing the UK's nuclear arsenal and relying heavily upon the US nuclear umbrella. Conversely, to retain an independent UK nuclear deterrent on the basis that we cannot trust the Americans to be there in the longer term presents a signalling problem to other NATO allies over the credibility of the US. extended deterrent, as well as to non-nuclear weapon states within the NPT more generally.

## The independence of the UK arsenal

If the United States were to withdraw their cooperation completely, the UK nuclear capability would probably have a life expectancy measured in months rather than years (the missiles in particular are part of a common pool of missiles shared with, and maintained by, the United States operating out of Kings Bay, Georgia). The United Kingdom's independence lies in its immediate operational capacity (the ability to patrol and to launch the missiles) rather than in its procurement and maintenance. But it seems unlikely that the UK would contemplate or explicitly threaten their use in a crisis without the support of the United States. This opens up the question of what the purpose of an independent deterrent is. Professor Colin Gray stated in evidence to the Defence Committee in 2006: "I am not the least troubled by the American connection, but for anyone who wishes to question the true independence of the British nuclear deterrent I would concede that it is... a hostage to American goodwill... the dependency is critical and will continue."<sup>36</sup> We would tend to agree with this sentiment.

It is difficult to envisage a future where the relationship with the United States was no longer central to British strategy, and there does not appear to us any likely scenario whereby the United States would see it as in its interests to cease nuclear cooperation with the UK.

We believe it still makes sense for the UK to maintain and operate a separate nuclear fleet because, whilst we will remain dependent upon the United States for its long-term maintenance, there could be future circumstances in which we face a strategic threat where the extended US nuclear deterrent is under question, but in which the United States would not obstruct the UK exercising its independent operation.

## Budgetary considerations

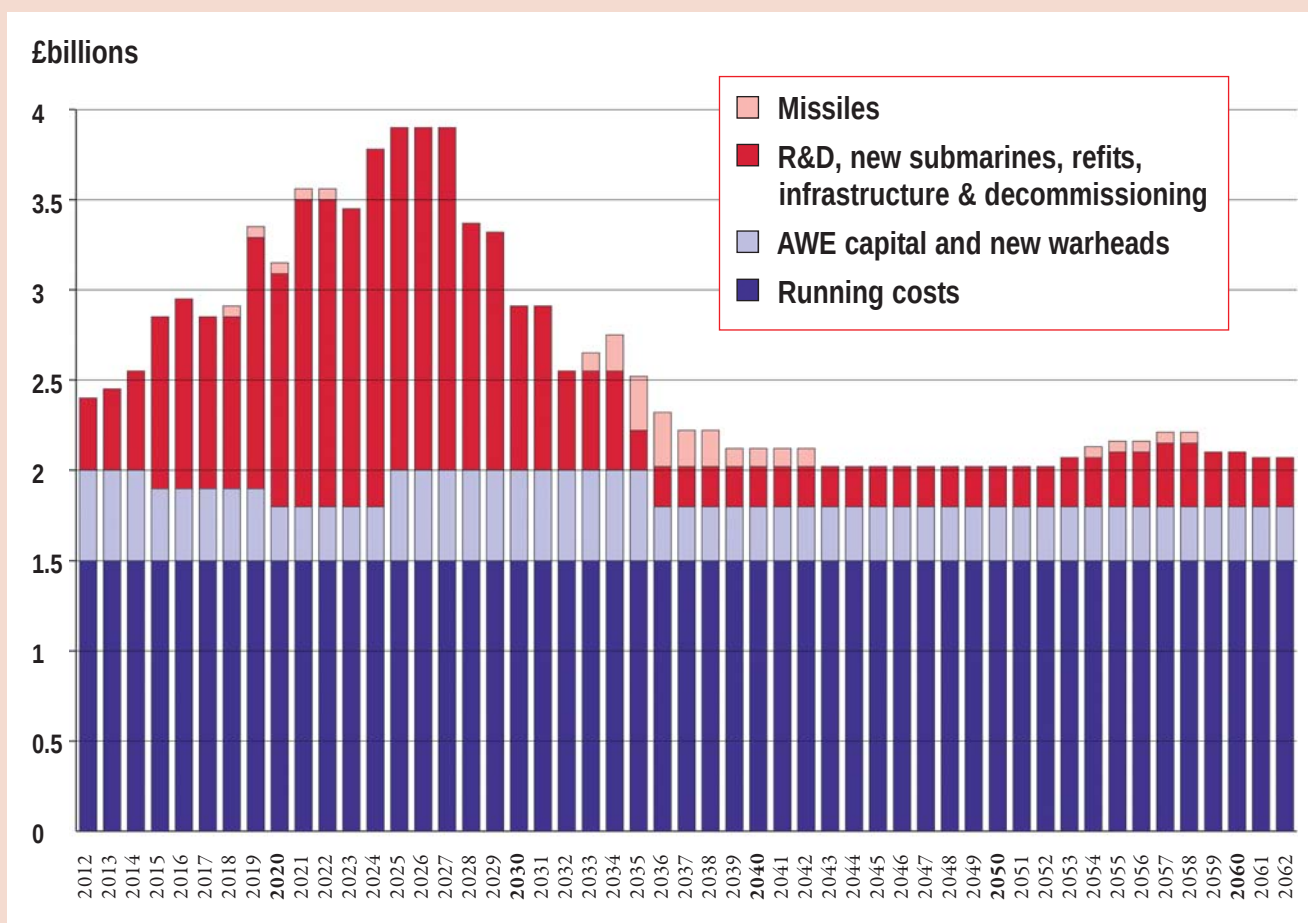
Although we believe they should not be determining factors, financial and industrial considerations inevitably weigh in on the calculations, not least because the costs stem from developing capabilities in one area of defence and security impact upon other alternatives.

This is particularly so in this age of austerity, when government spending comes under detailed and continuous scrutiny, and when other parts of the defence community are experiencing heavy and controversial cutbacks. The Treasury has insisted that spending on the Trident renewal project come out of the defence budget, making those opportunity costs all the more transparent.

The challenges of financing the renewal project from within the defence budget are considerable. The size of the spending gap at the Ministry of Defence between the equipment plan and the projected procurement budget remains controversial; recent efforts to bring projected spend under control have been only partially successful.<sup>37</sup>

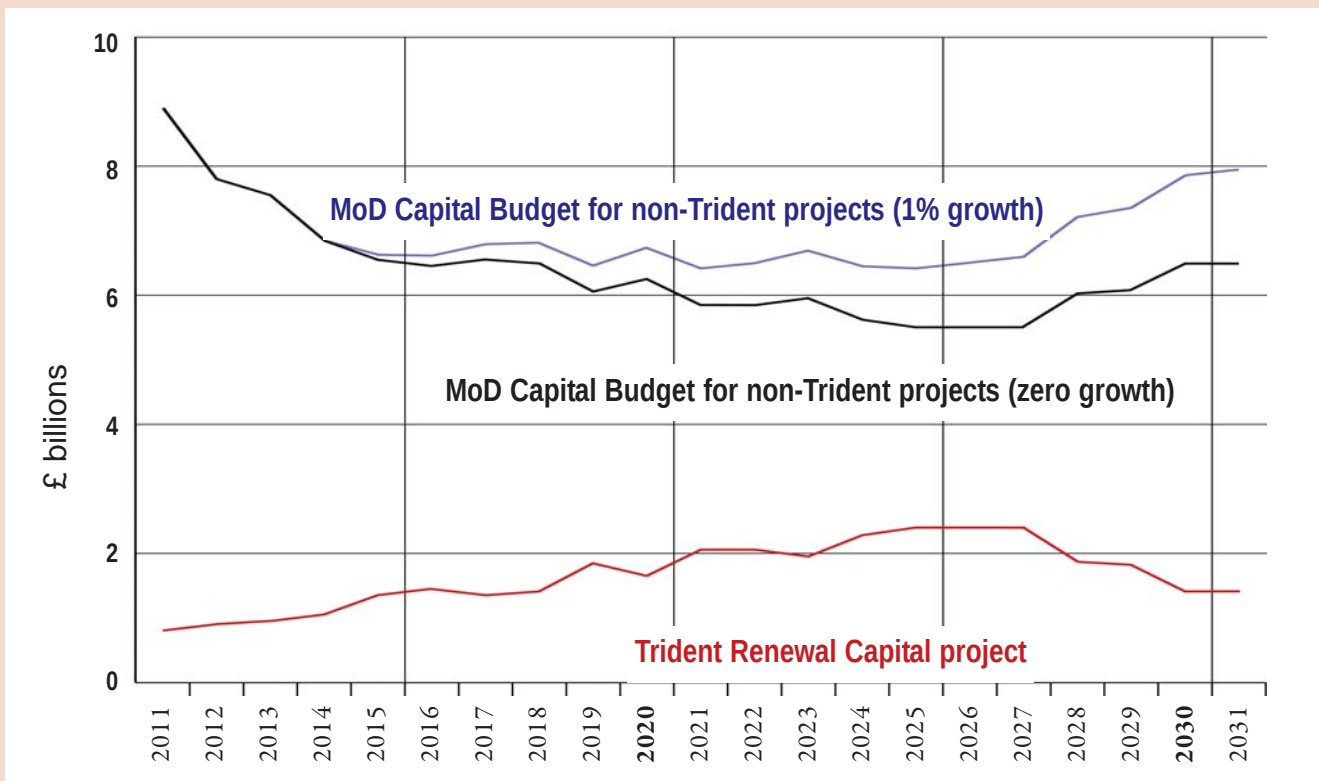
An indicative spending profile for this particular round of modernisation in the UK nuclear weapon system is shown below. This does not include spending on subsequent generations of submarines, missiles and warheads, nor unanticipated investment in elements of the infrastructure in the distant future. The figures here are gleaned from a number of publicly available official sources, and are outlined in greater detail in the supporting brief we are publishing on the same day as this report (number 3).

### Spending profile on current plans <sup>38</sup>



Source: 2012 prices, based upon a variety of sources and estimated figures for which more detail is available in the Commission background paper number 3 published alongside this report.

## Trident renewal impact on the MoD capital budget



**Source:** MoD capital budget estimates based upon Public Expenditure Statistical Analysis 2013, Departmental Expenditure Limits in real terms, HM Treasury, tables 1.4 and 1.9, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/223600/public\\_expenditure\\_statistical\\_analyses\\_2013.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/223600/public_expenditure_statistical_analyses_2013.pdf). Capital spending upon Trident project based upon estimates.

The heaviest capital spend on construction of the new submarines falls largely in the 2020s, and in this period will place a heavy strain on MoD's capital budget: in the period 2018 to 2030, between 20 and 30% of the whole defence capital budget shared between the three services will be spent on Trident renewal. Doubts have been expressed within the Commission, however, as to whether the Treasury would allow redirection of these resources to other defence projects were there to be a decision not to proceed on this project.

The combination of cuts in the MoD capital budget and the spend upon the Trident renewal programme mean that the budget for non-Trident projects, under the assumption of a 1% growth in the capital budget after 2015, hovers between £6 and £7 billion from 2014 to 2028, significantly lower than the £9 billion in 2011. Important defence projects currently in the pipeline will surely suffer delay or cancellation.

The Commission is aware of a number of headline figure estimates for the costs of renewing the Trident system over the lifetime of the project, but we believe the numbers involved are difficult to attach meaning to because most take no account of the time at which such spending is projected and the discount factors involved.

The current plans to construct and deploy four replacement SSBN submarines with missiles and warheads over the period 2016 to 2062 have a spending profile outlined in the graph above, and amounts to an equivalent annual cost (average net present value over the service-life of the new systems) of £2.9bn in 2012 figures, or 9.4% of the defence budget.<sup>39</sup> In the 2020s the actual annual cash cost will be a good deal higher than this (reaching a peak of almost £4bn a year in the mid-2020s, in 2012 prices), and later, once the investments have been made, will be lower, around £2bn in 2012 prices.<sup>40</sup>

A nuclear deterrent of such capability may be worth the cost, but in these times of high pressure on public finances, and on the defence budget in particular, it would be irresponsible to automatically assume it. We need to be transparent about the cost to the public purse. Over the next two decades the security and defence budget faces a tough squeeze caused largely by a contraction in public spending that looks long-term in nature, coinciding with a procurement bulge forecast to build up over the next decade and coinciding with the peak spending on the Trident renewal project. Decision-makers will face difficult choices of priority between defence capabilities.

We have come to the conclusion, on the balance of consideration, that the cost is not prohibitive given the possible implications were the UK in future to face a nuclear-armed aggressor. But no-one should suffer any illusion that this capability is cheap, and that there will be few opportunity costs. Retaining the deterrent could negatively impact on other valuable security and defence capabilities.

## Industrial considerations

The UK submarine industry depends heavily upon the decision on Trident renewal, as do certain local communities. Five communities in particular have varying dependency upon economic activity associated with the Trident programme:

Barrow-in-Furness, Cumbria, the location for BAE Systems submarine integration;

AWE Aldermaston and AWE Burghfield, in Berkshire;

Derby, where Rolls Royce manufactures nuclear propulsion systems;

HMNB Clyde, Faslane and Coulport, near Glasgow, for the basing of submarines and storage and loading of warheads; and,

Devonport, Plymouth, where submarines are repaired and refitted.

The UK submarine industry accounts for 3% of employment in the UK's scientific and defence industrial base. A replacement as currently planned could possibly employ as many as 26,000 people at some point in the process.<sup>41</sup> Of course, if the number of jobs were the principal concern, there would be more cost-effective methods of creating them.

As outlined in Professor Hartley's report for the Commission, this industry has just one customer (the MoD) and now one major systems integrating contractor (BAE Systems). Naturally, it thus incorporates several inefficiencies, reflected in entry barriers, excess capacity, duplication of competencies, lobbying distortions, price opacity and supply chain management issues—a situation exacerbated by its strategic sensitivity and there being no international market. There are relatively few innovation relationships that cross the industrial boundary.

The submarine industry is therefore deemed fragile and requires regular production orders. Its current 'drumbeat' is for one Astute submarine construction every 18 months, with the larger and more complex SSBN successor expected to be 2-3 years. Falling below this drumbeat would present major logistical challenges to the industry that would affect its efficiency and threaten its viability.<sup>42</sup>

A follow-on submarine to the Vanguard class is therefore deemed by many as essential to the on-going health of the UK submarine industry, though it would not necessarily need to be a ballistic missile submarine for this purpose specifically.

The 2006 White Paper points out that 'nuclear powered submarines carrying ballistic missiles represent, in engineering terms, one of the most complex and technically demanding systems in existence.'<sup>43</sup> Whilst there are likely to be crossovers in some elements of marine technology (eg. marine submersible technology, exploration, off-shore wind farms), these opportunities will be limited in more specific areas such as naval nuclear power generation and the integration of ballistic missile technology.

Activities at AWE Aldermaston are more closely associated with contributions to the cutting edge scientific base, specifically encompassing plasma physics, design physics, hydrodynamics, materials science, systems integration and supercomputing. Whilst these activities are specifically geared towards supporting the production and refurbishment of the UK's nuclear warheads, and are highly confidential in nature, there are technical and academic outreach programmes that help to assist, to a certain degree, spin-off for the broader scientific base. On the other hand, resources tied up in this work (in particular, highly-skilled scientists) are unavailable to other parts of the UK scientific base with less control and more possibility for positive externalities.

It is without doubt that several local communities are currently dependent upon the submarine industry for their viability, and that the UK scientific base also benefits from it. However, this should not be a determining factor when determining matters of national security, particularly considering the capability of government to manage economic transition, and the alternative economic and scientific contributions that resources currently devoted to nuclear weapons-related activities could bring.

In this chapter we have considered the case for and against the UK retaining a nuclear arsenal, in the context of its national security and its obligations to the international community, with particular reference to the NPT. In chapter 2 following this we consider the options facing the UK in choosing its future nuclear weapon system and posture, should it choose to retain an arsenal.



## Endnotes for Chapter 1

- 1 It is not the intention of this Commission to give a comprehensive review of the historic roots of the British bomb here. The Commission's fourth briefing, authored by Professor John Simpson, gives an excellent account, showing how the UK's choices have ensured continuity and underpinned its close-ally relationship with the United States (John Simpson, 'Deterrence, Disarmament, Non-Proliferation and UK Trident', Discussion Paper 4 of the BASIC Trident Commission, March 2013, <http://www.basicint.org/publications/john-simpson/2013/uk-trident>). We would also recommend Commission member Peter Hennessy's book, 'Cabinets and the Bomb', OUP, British Academy Occasional Papers, November 2007.
- 2 Sir Michael Quinlan in conversation with Sir John Willis and Lord Hennessy at The National Archives, Kew, 6 May 2004.
- 3 'The Future of the United Kingdom's Nuclear Deterrent: the White Paper,' 2006, House of Commons Defense Committee, CM 6994, p.19, <http://www.publications.parliament.uk/pa/cm200607/cmselect/cmdfence/225/225i.pdf>
- 4 'Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review,' HM Government, CM 7948, 2010, p.37, [http://www.direct.gov.uk/prod\\_consum\\_dg/groups/dg\\_digitalassets/@dg/@en/documents/digitalasset/dg\\_191634.pdf](http://www.direct.gov.uk/prod_consum_dg/groups/dg_digitalassets/@dg/@en/documents/digitalasset/dg_191634.pdf)
- 5 *ibid.*
- 6 'The Future of the United Kingdom's Nuclear Deterrent: the White Paper,' 2006, *House of Commons Defence Committee*, CM 6994, p.19, <http://www.publications.parliament.uk/pa/cm200607/cmselect/cmdfence/225/225i.pdf>
- 7 SDSR, 2010, p.37, [http://www.direct.gov.uk/prod\\_consum\\_dg/groups/dg\\_digitalassets/@dg/@en/documents/digitalasset/dg\\_191634.pdf](http://www.direct.gov.uk/prod_consum_dg/groups/dg_digitalassets/@dg/@en/documents/digitalasset/dg_191634.pdf)
- 8 *ibid.*
- 9 Oral evidence to the Trident Commission: Lawrence Freedman; Colin Stockman; Written evidence: Admiral Lord West, 'Should the UK Remain a Nuclear Weapon State?' BASIC, May 2011, <http://www.basicint.org/tridentcommission/evidencereceived/lordwest>
- 10 SDSR, 2010, p.5, [http://www.direct.gov.uk/prod\\_consum\\_dg/groups/dg\\_digitalassets/@dg/@en/documents/digitalasset/dg\\_191634.pdf](http://www.direct.gov.uk/prod_consum_dg/groups/dg_digitalassets/@dg/@en/documents/digitalasset/dg_191634.pdf)
- 11 The words of the UK Ambassador to the Conference on Disarmament in Geneva, Jo Adamson, in a statement delivered to the 2012 Preparatory Committee for the Nuclear Non-Proliferation Treaty, Vienna, 30 April 2012. The statement in full is available at: <http://ukmissiongeneva.fc.gov.uk/en/work/disarmament/wmd/npt>
- 12 See Tony Blair's Foreword to the 2006 White Paper, The Future of the United Kingdom's Nuclear Deterrent, HM Government, CM 6994, p.5.
- 13 'The Future of the United Kingdom's Nuclear Deterrent: the White Paper,' 2006, *House of Commons Defence Committee*, CM 6994, p.19, paragraphs 3-10, <http://www.publications.parliament.uk/pa/cm200607/cmselect/cmdfence/225/225i.pdf>
- 14 See *ibid.*, p.6 and p. 37. The late Sir Michael Quinlan, one of the most influential and respected postwar British thinkers on nuclear issues, also noted in 2006 that: 'we are still among the countries which have both the capability and the will to take on difficult missions around the world, and as we are seeing in one or two uncomfortable places now, nuclear weapons have a certain relevance to that.' Since the specific nature of that relevance is not spelled out, potential adversaries are left to guess.
- 15 'The Future of the United Kingdom's Nuclear Deterrent: the White Paper,' 2006, *House of Commons Defence Committee*, CM 6994, <http://www.publications.parliament.uk/pa/cm200607/cmselect/cmdfence/225/225i.pdf>
- 16 Saudi officials have been quoted as saying that were Iran to move closer toward a nuclear weapon capability, the Kingdom of Saudi Arabia would respond by acquiring its own nuclear deterrent (Mark Urban, 'Saudi nuclear weapons 'on order' from Pakistan,' November 2013, BBC News, <http://www.bbc.co.uk/news/world-middle-east-24823846>).
- 17 SDSR, p.27, [http://www.direct.gov.uk/prod\\_consum\\_dg/groups/dg\\_digitalassets/@dg/@en/documents/digitalasset/dg\\_191634.pdf](http://www.direct.gov.uk/prod_consum_dg/groups/dg_digitalassets/@dg/@en/documents/digitalasset/dg_191634.pdf)
- 18 Written evidence to the Commission: Ward Wilson, 'Doubts about Nuclear Deterrence', BASIC, June 2012, [http://www.basicint.org/sites/default/files/evidence\\_submitted\\_by\\_ward\\_wilson\\_0.pdf](http://www.basicint.org/sites/default/files/evidence_submitted_by_ward_wilson_0.pdf); and Quaker Action St. Andrews (QUASTA), 'Presentation to the BASIC Trident Commission', BASIC, November 2011, [http://www.basicint.org/sites/default/files/evidence\\_submitted\\_by\\_quaker\\_action\\_st\\_andrews\\_0.pdf](http://www.basicint.org/sites/default/files/evidence_submitted_by_quaker_action_st_andrews_0.pdf)

- 19 Oral evidence to the Commission: Nick Ritchie; Written evidence: Bruce Kent, 'Response for the Trident Commission,' BASIC, September 2011, [http://www.basicint.org/sites/default/files/evidence\\_submitted\\_by\\_bruce\\_kent\\_0.pdf](http://www.basicint.org/sites/default/files/evidence_submitted_by_bruce_kent_0.pdf); and CND, 'Reflecting on the Current Strategic Context,' BASIC, January 2013, [http://www.basicint.org/sites/default/files/evidence\\_submitted\\_by\\_cnd.pdf](http://www.basicint.org/sites/default/files/evidence_submitted_by_cnd.pdf)
- 20 We look further at the implications for the UK's declaratory policy with regard to chemical and biological weapons in the following chapter.
- 21 'Global Strategic Trends: Out to 2040,' UK Ministry of Defence, January 2010, p.11, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/33717/GST4\\_v9\\_Feb10.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/33717/GST4_v9_Feb10.pdf)
- 22 The first public appeal from former statesmen in recent years was made in a letter to the *Wall Street Journal* on 4 January 2007, authored principally by George P. Shultz, William Perry, Henry Kissinger and Sam Nunn. This and subsequent letters and conferences have sparked a flurry of similar activities elsewhere, including the establishment of the Top Level Group here in the UK.
- 23 Official papers, including 'Modern Forces for the Modern World,' the 1998 Strategic Defence Review (SDR), July 1998, Cm 3999; 'The Strategic Defence Review: A New Chapter,' July 2002, Cm 5566; 'Delivering Security in a Changing World: the Defence White Paper,' December 2003, Cm 6041; and 'Delivering Security in a Changing World: Future Capabilities,' additional chapter to the Defence White Paper, 2004, are all examples.
- 24 These legacy capabilities were summarized in SDSR 2010, paragraph 2.d.5-14 page 31-33, and include:
- 1) reductions in the civilian workforce and non-front line personnel, rationalization of the defence estate and sales of assets, greater use of simulators in training, contract renegotiations with the defence industry, cuts to personnel allowances, cuts to spending on commodities, media and communications;
  - 2) Reductions of 17,000 in service personnel by 2015, with further reductions planned by 2020, and reductions in MoD Civil Service of some 25,000;
  - 3) Closure of some army and navy bases, and the acceleration of base closures in Germany; and
  - 4) the withdrawal of outdated systems, such as Nimrod MRA4 and the Harrier.
- 25 SDSR, 2010, p.59, [http://www.direct.gov.uk/prod\\_consum\\_dg/groups/dg\\_digitalassets/@dg/@en/documents/digitalasset/dg\\_191634.pdf](http://www.direct.gov.uk/prod_consum_dg/groups/dg_digitalassets/@dg/@en/documents/digitalasset/dg_191634.pdf)
- 26 Article V states: 'The Parties agree that an armed attack against one or more of them in Europe or North America shall be considered an attack against them all and consequently they agree that, if such an armed attack occurs, each of them, in exercise of the right of individual or collective self-defence recognised by Article 51 of the Charter of the United Nations, will assist the Party or Parties so attacked by taking forthwith, individually and in concert with the other Parties, such action as it deems necessary, including the use of armed force, to restore and maintain the security of the North Atlantic area,' (NATO, [http://www.nato.int/cps/en/natolive/official\\_texts\\_17120.htm](http://www.nato.int/cps/en/natolive/official_texts_17120.htm))
- 27 In June 2011, outgoing Defense Secretary, Robert Gates, lamented the fact that, of all NATO members, only a handful (including the UK) appeared willing to shoulder their share of defence responsibilities ('The Security and Defense Agenda,' Speech as delivered by Secretary of Defense Robert M. Gates, Brussels, Belgium, June 10, 2011, <http://www.defense.gov/speeches/speech.aspx?speechid=1581>)
- 28 Simpson, BASIC, March 2013, [http://www.basicint.org/sites/default/files/basic\\_tridentcommission\\_johnsimpsonbrief\\_mar2013.pdf](http://www.basicint.org/sites/default/files/basic_tridentcommission_johnsimpsonbrief_mar2013.pdf)
- 29 'If a member state is the subject of armed aggression on its territory, the other member states shall have towards it an obligation of aid and assistance by all the means in their power...' ('The Lisbon Treaty,' December 2007, Article 42.7, <http://goo.gl/z0cmZ0>)
- 30 Steven Erlanger, 'Shrinking European Military Spending Stirs Concern,' *The New York Times*, April 2013, [http://www.nytimes.com/2013/04/23/world/europe/europe-shrinkingmilitary-spending-under-scrutiny.html?\\_r=0](http://www.nytimes.com/2013/04/23/world/europe/europe-shrinkingmilitary-spending-under-scrutiny.html?_r=0)
- 31 Linton Brooks, presentation to BASIC Strategic Dialogues breakfast, The Capitol Hill Club, Washington, DC, November 2012.
- 32 'Remarks by President Barack Obama,' Prague, Czech Republic, 5 April 2009, [http://www.whitehouse.gov/the\\_press\\_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered](http://www.whitehouse.gov/the_press_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered)
- 33 'Nuclear Posture Review Report' Washington, DC: US Department of Defense, April 2010, p. 31, <http://www.defense.gov/npr/docs/2010%20nuclear%20posture%20review%20report.pdf>
- 34 The debate on US nuclear policy has largely followed the same pattern. An influential report by a taskforce of the Council on Foreign Relations, chaired by William J. Perry and Brent Scowcroft, called on the US government to maintain its commitment to the nuclear security of its allies. See also, *US Nuclear Weapons Policy*, Washington, DC: Council on Foreign Relations, 2012, <http://www.cfr.org/proliferation/us-nuclear-weapons-policy/p19226>



- 35 The 2012 Department of Defense strategy document, *Sustaining US Global Leadership*, stated that, ‘while the US military will continue to contribute to security globally, *we will of necessity rebalance toward the Asia-Pacific region.*’ At the same time, however, the report explicitly stresses that, ‘we will field nuclear forces that can under any circumstances confront an adversary with the prospect of unacceptable damage, both to deter potential adversaries and to assure US allies and other security partners that they can count on America’s security commitments.’ *Sustaining US Global Leadership: Priorities for 21st Century Defense*. Washington, DC: US Department of Defense, January 2012, pp. 2 and 5 (emphasis in original), [http://www.defense.gov/news/defense\\_strategic\\_guidance.pdf](http://www.defense.gov/news/defense_strategic_guidance.pdf)
- 36 ‘The Future of the UK’s Strategic Nuclear Deterrent: The Strategic Context,’ *House of Commons Defence Committee*, Eighth Report, June 2006, paragraph 75, <http://www.publications.parliament.uk/pa/cm200506/cmselect/cmdfence/986/986.pdf>
- 37 Malcolm Chalmers, ‘Briefing Paper: Looking into the Black Hole,’ *RUSI Briefing Paper*, September 2011, <https://www.rusi.org/downloads/assets/RUSIBriefingPaperSept2011.pdf>
- 38 All figures in this report use 2012 prices unless otherwise stated.
- 39 This figure is calculated using the government discount rate applied to the spending profile to reach a net present value of the capital and running costs of the replacement system, which is then averaged out over the years of service for the new system. More details can be found in the supporting briefing.
- 40 These costs would not include unforeseen or unlikely events, such as a decision to relocate the patrol and warhead storage bases.
- 41 Keith Hartley, ‘Defence Industrial Issues: Employment, skills, Technology and Regional Impacts’, BASIC, Discussion Paper 2 of the BASIC Trident Commission, March 2012, pp. 13-14, [http://www.basicint.org/sites/default/files/trident\\_commission\\_defenceindustrial\\_issues\\_keith\\_hartley\\_0.pdf](http://www.basicint.org/sites/default/files/trident_commission_defenceindustrial_issues_keith_hartley_0.pdf)
- 42 John F. Shank, Jessie Riposo, John Birkler and James Chiesa, ‘The United Kingdom’s Nuclear Submarine Industrial Base’, Rand Corporation, Volume 1, 2005, p. xxii, [http://www.rand.org/pubs/monographs/2005/RAND\\_MG326.1.pdf](http://www.rand.org/pubs/monographs/2005/RAND_MG326.1.pdf)
- 43 ‘The Future of the United Kingdom’s Nuclear Deterrent: the White Paper,’ *House of Commons Defence Committee*, CM 6994, 2006, paragraph 6.1, p. 28, <http://www.publications.parliament.uk/pa/cm200607/cmselect/cmdfence/225/225i.pdf>

# Chapter 2

## Alternative platforms and postures for the UK

The UK is due to take the main gate decision in 2016 on constructing the next generation of ballistic missile submarines, though it is possible that the final decision on number of submarines will not be taken until later in the procurement process. In theory, up until the main gate decision, the UK could yet decide to opt for another type of platform – a smaller submarine, an aircraft, a ship or land-based missile launcher – possibly with another delivery system, perhaps a cruise missile or a free-fall bomb. The Commission has considered alternative options for platforms and delivery vehicles, but is conscious that the government's Trident Alternatives Review, published in July 2013, was always going to be a great deal more comprehensive.<sup>1</sup> Whilst it avoided final conclusions and recommendations, the Review has been generally interpreted as rejecting any practical alternatives to the SSBN system and has largely closed the political debate on this issue. This was in part because of the claim that it would take AWE Aldermaston 24 years to design, develop and manufacture new warheads for any alternative delivery system, and in part because alternatives had inferior capabilities. The Commission tends to agree that alternative platforms and delivery systems do not offer sufficient benefits to merit serious consideration at this stage.

In contrast, the Review was more ambiguous on the question of whether the posture could change and still be credible, depending upon the strategic circumstances, and it is this question that has captured the Commission's attention.

We start by establishing the basis of our considerations.

### Our criteria in judging platforms, delivery systems and postures

#### UK nuclear doctrine and operational posture

Successive UK governments have taken decisions on the size, scale and nature of the nuclear force deemed necessary against a set of criteria that effectively define what this 'credibility' is seen to mean. These criteria are summarised below:

- **Force invulnerability:** The 2006 White Paper declared that 'a deterrent system must be able to function irrespective of any pre-emptive action that might be taken by a potential aggressor';<sup>2</sup>
- **Minimum destructive capability:** Minimum is defined as the capability necessary to deliver an assured level of destruction, sufficient to impact the decision-making processes of any potential adversary and to overcome any potential defensive measures they might employ;
- **Global Reach:** Since there is increasing uncertainty about the nature and likely source of future threats, and because the nuclear force backs up the UK's global role, it is thought important to retain the capability to deter threats anywhere in the world;
- **Force Independence:** To be effective, the UK's nuclear forces must, the government has argued, remain fully independent operationally, to provide total assurance and credibility that such forces could or would be used to defend vital UK interests, even when these were threatened in isolation from those of other allies.<sup>3</sup>

It is the focus on the invulnerability, global reach and independence of the UK nuclear force that has led, since the 1960s, to the use of successive fleets of nuclear-armed and nuclear-propelled submarines, each carrying ballistic missiles with ranges that run to thousands of miles.<sup>4</sup>

To be more specific, since June 1969, the point at which the Royal Navy took over primary responsibility for the United Kingdom's nuclear deterrent from the RAF's V-bomber force, invulnerability has been delivered through ensuring that at least one of the submarines has been on patrol in highly secret locations at any one time, in a posture known as Continuous At Sea Deterrence (CASD). CASD is justified on the basis that having at least one undetected submarine out at sea at all times enables the UK to guarantee a second-strike capability in any circumstances, and therefore ensures an invulnerable deterrent.

## Credibility

Credibility is crucial in judging alternative nuclear postures and systems. Doubt over credibility can be very dangerous for nuclear systems at times of crisis. The government's Trident Alternatives Review (TAR) states that in order for the country to deter credibly, 'a potential aggressor needs to believe that the UK has the capability and resolve to deliver "unacceptable loss" in response to an actual or imminent attack.'<sup>5</sup> The TAR used the following root definition for any credible nuclear deterrent:

*'A minimum nuclear deterrent capability that, during a crisis, is able to deliver at short notice a nuclear strike against a range of targets at an appropriate scale and with very high confidence.'*<sup>6</sup> (emphasis added)

The definition starts by highlighting the desirability of staying at a minimum (sufficient) capability, to reduce the risk of negative reactions from strategic competitors or of downsides for nuclear diplomacy, as well as to ensure value for money.

The other dimensions are all interdependent, but add up to a capability for striking back with high confidence of success. It would be possible to achieve a level of deterrence with a system that was not at a high level of alert if one could be confident of its survivability. Similarly, the range of targets might not actually be necessary, but a wider range could indeed be a reason for greater pause on the part of any aggressor.

It is often implied that if the capability of a nuclear system falls below these criteria, it becomes unstable (inviting pre-emptive attack from potential aggressors), and could thus become worse than useless. If a posture relies upon visibly surging capability in a moment of crisis in order to achieve invulnerability it could inadvertently raise tensions at the most dangerous point. In addition, it may appear to go without saying that systems should be safe and secure, and should be affordable in the long term.

The Trident system is judged at present to fulfill these criteria because of its stealth and mobility, its global range and missile speed, the capabilities of the re-entry vehicle to evade defences, the severe challenges adversaries have in defending against ballistic missiles, and its readiness level.

## Scale, survivability/vulnerability and reach

For a second-strike capability, UK nuclear systems need to have high confidence of surviving any first strike and then being able to penetrate defences and have sufficient range to hold at risk enough targets, with the destruction caused of sufficient magnitude, to tip the scales for any adversaries. If they believed this was not the case and the benefit calculations were to tip in any crisis, they might have an incentive to launch an overwhelming strike to neutralise or reduce any threat. The deterrence relationship would then be unstable. The range of the system bears upon both reach and vulnerability.

## Readiness

The TAR states that 'a potential adversary must believe that the UK's nuclear weapons are available and ready for use.'<sup>7</sup> This is the core reason behind maintaining a continuous-at-sea deterrent (CASD). Readiness, though, is a secondary objective, presumed essential to achieve the primary objective, being survivability. If there were other means of achieving survivability and reach with high confidence without nuclear systems being at a high state of readiness (even in times of crisis), then readiness would not be a necessary criterion. Indeed, today the UK's arsenal is said to be at several days' notice to fire. The government does not require its patrolling submarine commander to be in a position to launch his missiles with the short notice such commanders were under during the Cold War. This can be restored very quickly, and much of the time a commander will in any case have the practical capability of responding to such an order in as little as 15 minutes from receiving the Prime Minister's firing directive, when in range and in the right part of the ocean.

## Resolve

For any deterrent to have the desired impact the adversary needs to believe there is a high enough probability that the UK government might use it. This involves political statements (declaratory policy), posture, exercises and the like, and is a good reason to reduce the level of ambiguity involved.

## Cost

Cost is a highly relevant, though not necessarily a determining, factor. It would take a great deal of soul-searching and justification for any government to choose an alternative system that ended up costing more than the current plans, unless there were very good reasons. Ballistic missiles are generally the most expensive type of delivery method, and nuclear-powered submarines the most expensive type of platform, partly because this technology is so complex and unique and is not traded internationally.

However, the UK is not starting from scratch: the sunk costs in the current system and the supporting infrastructure will necessarily reduce the cost-saving from switching to any alternative system. Also, the UK does not bear the full cost of one component of the current system, the Trident ballistic missiles – including their maintenance.

## Safety & security

Systems must not only be assured of working when they need to, but also kept safe from unintended or unauthorised use and from theft. We believe command and control of the Vanguard fleet is robust right down the firing chain; the Prime Minister's instructions would be very precise. However, it is impossible to remove risk entirely from operations, as the collision between HMS Vanguard and Le Triomphant in February 2009 demonstrated. Signaling to opponents also remains problematic, particularly as in a crisis it often becomes foggy and imprecise, easily misinterpreted under rapid decision-making and intense psychological pressure. The Cold War period involved mistakes, near-misses and miscalculations. Younger and potentially multipolar nuclear rivalries could be even less stable.

## Independence and alliance

In a world of increasing stress on defence budgets and on smart defence within the Alliance, the contradiction between independent forces and effective contributions to Alliance security becomes more acute. This is particularly so in the field of strategic defences, where interests are most likely to align – a strategic territorial threat to the UK will also be a major threat to European security, and to US strategic interests.

The TAR judged operational independence to be essential, as have previous governments. Having the ability to operate a credible deterrent fulfilling the criteria outlined here independently of any allies insulates the UK from the vagaries of future trends in international relations and the health of NATO. We have already outlined in the previous chapter our warning that current alliances cannot be wholly relied upon in future.

Nevertheless, independence is a long-term requirement, and there may be a more immediate case for seeing UK nuclear forces purely as an effective contribution to an overall Alliance capability. For example, at present it may be that the only nuclear forces to be operating continuous-at-sea deterrence (CASD) are the three nuclear weapon states in NATO, who between them have at least seven nuclear submarines out on active nuclear patrol at any one time.<sup>8</sup> If we were able to have sufficient confidence in the health of the Alliance moving forward into the future, it would be possible to have fewer Alliance submarines out on constant patrol to maintain an Alliance-wide CASD, were that deemed to be necessary for a credible nuclear deterrent.

## Contribution to the international security architecture

Another criterion that needs to be taken into account is how a particular posture and weapon system will be seen by other states, and how it might impact upon international stability and the disarmament and non-proliferation regime. The UK's reductions in warheads and systems, readiness and posture already made since the Cold War have been broadly supported by the leaderships of all the three main political parties, and have played an important role in the UK's reputation as the most progressive nuclear weapon state.<sup>9</sup> This is discussed in greater detail in chapter 3.

## The choice of platform and delivery system

The Commission has considered in detail a variety of platforms and delivery systems. We were not convinced by the advantages that might be associated with alternatives to a Trident system: they are at best unproven and highly speculative. Other systems have a major problem in that for much reduced capability, often well below what would be judged to be credible when considering the criteria above, the savings to be had do not appear significant.

Submarines remain the most stealthy platform, one that when successfully evading detection is invulnerable to pre-emptive first strike when at sea. This means they are relatively stable in a crisis; the leadership does not face the choice of using them or losing them.

Whilst originally based upon 1980s technology, Trident ballistic missiles remain the most sophisticated, capable nuclear weapon delivery system on the planet, and with life extension and eventual replacement in the late 2030s are likely to remain so.



Ballistic missile systems share a number of core advantages over cruise missiles, namely their long range,<sup>10</sup> high accuracy, high speed and difficulty of interception. Trident missiles have a range of 4230-6100 nautical miles and, with a maximum speed of 13,000 mph, can take under an hour to reach their objective, with a high confidence of landing within tens of metres of their target. These are significant capability advantages in themselves, but in combination they mean that there is a strong case for choosing ballistic missiles over cruise.

The range means that SSBNs do not need to patrol in or near hostile waters, so they are less vulnerable and do not result in unintended escalation, and do not need to travel long distances themselves to achieve their targets. The fact that such ballistic missiles only carry nuclear warheads means that there is no strategic ambiguity when they are launched.

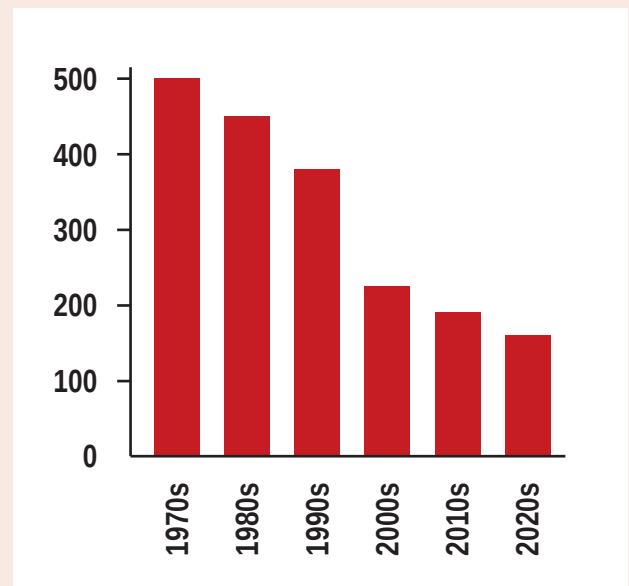
It has been suggested that the UK could instead opt for a basic warhead delivered as a free-fall bomb from the Joint Strike Fighter or similar dual-capable aircraft.<sup>11</sup> This would have to rely on aged warhead designs if the system were not to suffer the extra-long lead-times outlined in the Trident Alternatives Review. More importantly, however, the Commission does not believe this solution meets the minimum standards of credibility against potential threats that underlie the purpose of maintaining a nuclear deterrent (in particular, the re-emergence of a massive nuclear threat against the UK).

There was also a concern expressed within the Commission that an option that sought nuclear weapons ‘on the cheap’ with little regard for capabilities or context would not only fail in its purpose, but could also send a message to states without nuclear weapons that they too could acquire designer ‘pocket’ nuclear weapon systems, thus driving proliferation.

## Number of warheads and submarines

Being a measurable quantity, the number of warheads has in the past been seen by many as a yardstick of a state’s commitment to the process of disarmament. Prior to the 2010 Strategic Defence and Security Review (SDSR), the UK had fewer than 160 operationally-available nuclear warheads, and a stockpile of 225 warheads. The SDSR announced a reduction to fewer than 120 operationally-available ‘over the next few years’ and the overall stockpile to no more than 180 by the mid-2020s.<sup>12</sup> Each submarine now carries a maximum of 40 independently targetable nuclear warheads on eight Trident II D5 ballistic missiles.<sup>13</sup>

### UK Warhead Stockpiles



**Source:** Defence White Paper December 2006, Strategic Defence and Security Review 2010, and estimated figures pre 2000 from Federation of American Scientists.

In the 1970s, the stockpile amounted to some 500-600 nuclear weapons, of which approximately 450 were thought to be operationally available, though figures were not made public at the time.<sup>14</sup> For much of the period up to the late 1980s, the British nuclear force consisted of three elements: strategic, sub-strategic and tactical.<sup>15</sup>

The minimum number of warheads is based upon the judgment of the level of high-confidence destruction required to offer a credible deterrent. This involves an assessment of key targets of value and the transparent capability to destroy them. In the past it was thought that there needed to be sufficient numbers of warheads to guarantee penetration of Moscow’s defences and hit several other targets, in what became known as ‘the Moscow criterion’. The need for such a large surplus of warheads was reduced with the advent of Chevaline and then disappeared with the Trident re-entry vehicle (and its updates), as these systems have a high confidence of penetration. Nevertheless, it is believed that the Moscow criterion still has influence over the judgments made in the Ministry of Defence on how many warheads are required for minimum deterrence.

Further reductions in the ‘minimum deterrent’ to fewer than 120 deployed warheads and 40 at sea may well, therefore, be possible without compromising its credibility. If so, they should be adopted. One concern, however, might be that deciding on a further reduction without corresponding reductions by other nuclear weapon states might be seen as narrowing the room for flexibility or influence in future negotiations. In any case, judgments will need to be made on national security criteria in the context of other nuclear weapon states that have, as we have already noted, been modernising their nuclear arsenals and in some cases increasing their capabilities.

Another concern could be that whilst a small number of warheads might be sufficient for pure deterrence purposes, it might send undesirable signals of weakness to allies. If this is an active concern within the government, it should not play a role in determining numbers because the legitimate purpose of the UK’s arsenal is for strategic deterrence. As discussed in chapter 1, we are not in the business of providing primary extended assurance to allies.

The other definitive number involved in the system is the number of submarines. Currently the UK government is formally committed to maintaining four on the basis of the posture of continuous patrolling, an issue we come to later in this chapter.

## Adapting declaratory policy

### UK Declaratory Policy

There is a tension at the heart of nuclear deterrence policy between ambiguity about the circumstances of future use and clarity of threat. If you are clear about your red lines then an adversary will know that if they step over that line they could face dire consequences. This is a strong position. However, this boxes in future decision-makers and places their credibility on the line, especially if it were at that moment irrational and extremely costly to follow through. Ambiguity, on the other hand, gives political and military leaders far greater freedom of action to choose the appropriate course of action at the moment of crisis, on the basis of specific and rational calculations in that specific instance. Crucially, it leaves potential adversaries in the dark about postures and intentions, complicating their strategic planning. But by definition it does not involve clarity of signaling, and could lead to confusion or mistakes and thus a failure of deterrence.

Clarity stemming from a tight declaratory policy addresses some of the concerns about both the risks and the legitimacy of nuclear weapons possession by focusing purpose on a specific envelope of extreme threats. In contrast, ambiguity exacerbates the threat other states might feel even when there is no intention to threaten them. This can create resentment, hostility and a significant erosion of trust and goodwill, leading to international pressure to give credible assurances about non-use. It also suggests an unjust double standard – that some states enjoy high levels of flexibility whilst imposing strict limitations on those without capabilities. The need for tightly-defined declaratory policies has played itself out within the broader non-proliferation regime, in the establishment of nuclear weapon-free zones that include protocols in which the nuclear weapon states give negative security assurances (promises not use nuclear weapons to attack NPT members), and broader global negative security assurances to non-nuclear weapon states that meet certain criteria and therefore present no strategic threat.

With regard to its potential use of nuclear weapons, the UK’s long-standing position has been that it ‘would only consider using its nuclear weapons in extreme circumstances of self-defence, including the defence of its NATO Allies’, but it has remained ‘deliberately ambiguous about precisely when, how and at what scale it would contemplate their use’.<sup>16</sup> In 2010 the government re-affirmed this position but also declared:

*‘We are now able to give an assurance that the UK will not use or threaten to use nuclear weapons against non-nuclear weapon states parties to the Non-Proliferation Treaty (NPT). In giving this assurance, we emphasise the need for universal adherence to and compliance with the NPT, and note that this assurance would not apply to any state in material breach of those non-proliferation obligations.’<sup>17</sup>*

This was a stronger UK security assurance offered to non-nuclear weapons states than previously, dropping the exception previously applied to states allied to a nuclear weapon state (applying to the Warsaw Pact). However, the exception for states in material breach appears to be based on the belief that these states do not deserve the assurance because of the harm their activities do to the integrity of the NPT or because states might believe they can contravene the NPT with impunity, rather than on any significant direct threat of nuclear attack on the UK. In adopting these positions, the government brought UK declaratory policy very close to the changed declaratory policy of the United States, as articulated in the 2010 US Nuclear Posture Review.<sup>18</sup> The United States and UK have achieved some credit within the international community for tightening up their declaratory policies recently.



The government also recently sought to clarify its position with regard to the possible non-strategic role of UK nuclear weapons. In February 2012, Foreign Secretary William Hague confirmed that:

*'Since 2007 the British Government has ceased to refer to a sub-strategic capability in relation to Trident. This is for the simple reason that we believe any use of our deterrent would be strategic in intent and in effect.'*<sup>19</sup>

## Reducing ambiguity?

Declaratory policy has always suffered in the final analysis from the burden of credibility. What is said in times of peace can easily be forgotten or put aside in the heat of conflict or crisis when the supreme interests of the state are on the line. Current leaderships cannot bind future leaderships, the pressures of grave crisis can be impossible to predict, incentives to switch will arise in the moment, and there may even be no intention of following through on a declared posture. This is a key concern for Commissioners – that a declaratory policy that goes significantly further than international partners and potential adversaries is one that will not be seen as credible and will have few benefits, whilst weakening clarity and authority.

Nevertheless, declaratory policy can constrain doctrine and operations, and impact upon training, legitimacy and accountability within the chain of command, relations with allies and moral restraint in moments of crisis. These can be reinforced through protocols governing the handling, maintenance and release of nuclear weapons and the conduct of military exercises. It is clear that public statements of policy are valued by non-nuclear weapon states and strengthen particular norms around the responsibilities states with nuclear weapons have. A declaratory policy also clarifies that the state in question is mindful of its international legal responsibilities and upholds the rule of law. The UK has explicitly accepted the 1996 Advisory Opinion of the International Court of Justice that includes the opinion that the only conditions in which the threat or use of nuclear weapons may be judged lawful is the extreme circumstance of self-defence in which the very survival of the state would be at stake (and even then the Court might not judge these conditions definitively to be sufficient).<sup>20</sup> The general global trend towards clarity in posture should be actively encouraged through negotiation amongst the nuclear weapon states, action that would have value in increasing the understanding between weapon states of each other's posture. We consider a number of possible ways this could be done.

## Chemical and biological weapons

There has in the past been some deliberate ambiguity over the possible use of the UK's nuclear weapons in the event of a chemical or biological weapons attack by another state. Currently, the policy as stated in the 2010 Strategic Defence and Security Review is:

*'While there is currently no direct threat to the UK or its vital interests from states developing capabilities in other weapons of mass destruction, for example chemical and biological, we reserve the right to review this assurance if the future threat, development and proliferation of these weapons make it necessary.'*<sup>21</sup>

Chemical weapons have recently come to public attention through their use in Syria; and though they have not yet been used in quantities that cause mass casualties of anywhere near the scale of a nuclear attack, they do have some potential for significant local impact. Beyond political signaling, chemical attacks are not directly relevant to nuclear deterrence. The bar for a credible nuclear deterrent in such circumstances is quite high; it would not be credible to threaten a nuclear response if the UK's armed forces were to come under attack from chemical weapons, for example.

While the biological weapons field remains under-developed up to now and is beyond the scope of this report, there is the possibility of major threat from biological agents emerging in the future with potential casualties on a similar scale to a limited nuclear exchange. This is all the more worrying for the fact that the rapid development of biochemistry and related technologies brings such a capability into much wider reach. Nevertheless, many of the same challenges associated with using nuclear deterrence to deter state-sponsored terrorism referred to earlier apply here. The level of proof required for attribution for bio-attacks is likely to be extremely challenging (it is highly unlikely that the method of delivery would be by conventional military means).

It might therefore at this time be possible for the UK to give a less ambiguous assurance that it would not use nuclear weapons in response to a chemical or biological attack, without this reducing credible deterrence, but adding that this would be subject to reconsideration were circumstances to change in regard to the biological weapon threat to the UK. We should in any case be investing in measures to develop resilience to such chemical or biological attacks. The problem with explicitly referring to the possibility that nuclear weapons could in future be relevant to the deterrence of chemical and biological weapons is that it weakens the international standards for negative security assurances.

## Sole purpose

During the debates over the US Nuclear Posture Review in 2009 and 2010, a core proposal seriously considered by the Obama Administration was to state categorically that the US nuclear arsenal existed only to deter the use or threat of use of nuclear weapons against the United States or its allies. This was not adopted in the final text. One of the principal concerns in the United States was the message this might send to US allies, who might lose some level of reassurance around US nuclear resolve.

But the UK does not have the same degree of responsibility for extended deterrence to allies. It has also specified that its nuclear weapons will always 'remain a political tool of last resort rather than a war fighting capability'.<sup>22</sup> If the UK were to determine that the only relevant reason for planning the use of British nuclear weapons was to deter nuclear use or threat, then there would be a strong case for working with fellow nuclear weapon states within the 'P5 process' to establish a mutual sole-purpose declaration, in answer to the Chinese demand that the NWS agree a no-first use collective position (see below). This would help develop an international norm and send the message to the non-nuclear weapon states that they were not targets for nuclear attack and thereby help to build greater confidence in the NPT.

A sole purpose declaration is to be contrasted with a sole use. Sole purpose would in essence communicate that the intention, the training and posture would be geared only towards deterring use or threat of nuclear weapons, and therefore does not suffer from the same credibility problem as sole use. It would not be specified that the actions of a state in a crisis would be completely restricted to such threats. Sole purpose could be seen as a step in the direction of sole use.

## No-first use of nuclear weapons

Whilst there might be highly unlikely scenarios in which the UK wished to threaten the use of nuclear weapons first, they would be highly controversial. UK planning revolves around maintaining a confident second-strike capability. A no-first use declaration might therefore appear attractive. There remains scepticism within this Commission, however, for all the reasons outlined earlier, over the credibility of declaratory policy that would be very different from other weapon states' posture. If the UK were facing a massive and overwhelming attack from a state with superior capabilities backed up by a nuclear weapon capability, a future British leader would want to have the freedom to threaten a nuclear first strike to prevent this.

There might instead be a case for the UK to discuss the possibility of such a conditional declaration in the NATO context instead, or to work alongside colleagues within the nuclear weapon states to negotiate and reinforce a multilateral no-first use international norm.

## Options for patrolling

Current policy requires a high confidence of having at least one nuclear ballistic missile submarine (SSBN) at sea at all times. This policy is seen as meeting the criteria outlined above on credibility, survivability and readiness.

Continuous-at-Sea Deterrence (CASD) generally requires two submarines to be available at any given time for operational patrols – one out at sea and the other in port being prepared for its next patrol. Typical patrols generally last two to three months, and overlap by a few days at least, as submarines are more vulnerable to detection and attack when entering or leaving port. This therefore leaves a couple of months for the submarine in port to undergo any minor maintenance and to prepare to receive their crew. The third and fourth submarines are generally required to cover periods of longer-term maintenance and overhaul, training and any unexpected catastrophic event that could damage or destroy a submarine.

The Ministry of Defence assumes that the UK will still require a four submarine fleet to have a high confidence of maintaining an indefinite CASD posture, though decisions on this will be taken later.<sup>23</sup> This is because, even with the modernized PWR3 reactor that no longer requires mid-life refuelling, the new submarines are still expected to need complex mid-life overhauls for other components that could last several months. We do not have sufficient information to come to a definitive view on whether three submarines would be sufficient for a CASD posture, or whether replacing the four existing Vanguards with four successor submarines represents an increase in patrolling capabilities because of the higher reliability of new technology.

### There are a number of reasons for the UK to maintain a CASD posture:

- **Dependence upon a single system:** the UK is the only nuclear weapon state with a single delivery system. Any uncertainty over the ability of this system to deliver warheads translates to an uncertainty over the whole deterrent.
- **Vulnerability to surprise attack:** any moment that the UK does not have a submarine out at sea makes it more vulnerable to a first strike that could render it unable to respond with a second strike. This is not currently a live concern, but could again become so in future.

- **Vulnerability in port or approaches:** Submarines can be attacked when in port and are exposed to blockades, detection and attack when in the approaches to port.
- **Crisis decision-making:** a future UK political leadership might fail to read a crisis correctly and not deploy a submarine in time, or be unable to respond quickly enough because of disagreement or fear of inappropriate signalling.
- **Crisis instability:** deploying a submarine in a crisis could inflame rising tensions still further in ways that were undesirable. The fear that such a deployment could indeed raise tensions might operate as a disincentive to doing so, and lead to a future UK leadership risking failure to field an active nuclear deterrent in a moment of crisis.
- **Efficiency and training:** We have to keep the level of training and personnel cohesion high, an issue of particular importance in the context of a highly complex, specialist mission. Savings to be had from dropping CASD while retaining the capability of ramping up patrols in a crisis are not proportionately substantial, not least because of industrial constraints, economies of scale and the need to maintain core infrastructure and equipment.<sup>24</sup>
- **Morale:** Morale is crucial to the effective and safe future operation of the deterrent. CASD is seen as important for motivation and retention of the naval personnel involved, largely because the continuing relevance of the mission is explained to them in terms of the need for CASD as an acting operational posture (as opposed to training). The challenge of maintaining morale for nuclear missions in peacetime has been highlighted recently by several lapses of procedure in the United States, and by the challenge of recruitment and retention of crews.
- **Diplomatic relevance:** CASD may be important for retaining the UK's credibility within the group of nuclear weapon states as a full player and for encouraging them to engage in multilateral disarmament.
- **Minimum deterrence:** CASD is seen by some as being well above a minimum requirement in the current strategic environment. The UK's contribution to the health of the NPT may require a series of moves towards disarmament and some believe this may now need to translate into a move away from the current CASD posture.
- **The Alliance context:** CASD could be seen not as a national but as an alliance-wide requirement; any potential aggressor would be deterred by the uncertainty surrounding the total alliance response, particularly if there were advance and explicit public commitments. This would entail relying for periods on the extended nuclear deterrence afforded by allies.
- **Supporting the NPT:** relaxing CASD shows responsiveness in the UK's posture and negotiating position in future global nuclear disarmament talks. Whilst the direct impact on the global debate might be small, it could weigh positively on the diplomacy underpinning the development of the NPT regime.
- **Crisis stability:** any crisis serious enough to involve the possible future use of nuclear weapons would already involve the engagement of other forces and might merit the immediate deploying of one or more submarines as a precaution, itself a strong and possibly desirable message of intent.
- **Cost:** maintaining CASD is expensive in a period of scarce resources (including volunteer submariners). There may be significant marginal savings with credible alternative postures that ensure an effective contribution to Alliance capabilities with fewer submarines and crews.
- **Efficiency, training and morale:** a high military capability requires constant training and a high operational tempo of deployment undermines it. The message to crew that a patrolling submarine could determine the fate of UK security in a crisis applies whether or not CASD is maintained in peacetime.

With a very low probability of a relevant crisis emerging in the foreseeable future, there has been some debate over whether the current CASD posture could be replaced with a requirement to have the capacity to move into a period of back-to-back patrolling, for a period of time or indefinitely, were the strategic situation to deteriorate or a crisis to develop. **There are a number of reasons for the UK to consider relaxing the CASD requirement:**

As a Commission looking ahead into what may be a rapidly changing future, we believe there are further steps that could be considered between the current posture and full disarmament, when the strategic conditions allow, with relaxed CASD as one of those steps. We are, however, divided over whether the UK could take this step now independently, or multilaterally with other nuclear weapon states. Some Commissioners believe that CASD should be sustained for the foreseeable future.



They believe that the UK should wait for improvement in the security environment, specifically a reversal of the current trends in the modernisation of nuclear arsenals elsewhere and stronger indications of a matching intent to disarm, bearing in mind that the UK is the only nuclear weapon state relying on a single platform. Others believe that the strategic environment today, which does not involve a current or near foreseeable strategic military threat to the UK and its vital interests, enables us to drop continuous patrolling and retain instead the capacity to ramp up patrols should crisis threaten, and that we need to take this step to achieve a minimum nuclear deterrent posture commensurate with the threat we face.

Either way, the UK could initiate a conversation with our Alliance partners on the conditions that could facilitate greater coordination of Atlantic patrols, an action that could send desirable signals to allies of the UK's willingness to place greater faith in the cohesion of the Alliance.

If the current requirement for high-confidence CASD were relaxed, there would be several options available on a sliding scale of requirements. We review two below.

### Near-CASD

The UK could adopt a posture involving a continuation of day-to-day continuous patrolling, but at a lower confidence level in times of no strategic threat (unplanned random breaks in patrol, or patrolling combined with training). In other words, there could be occasions when the UK might not have a submarine out at sea when there are no crises on the horizon, but retained a high confidence of being able to launch a boat at very short notice.

This would allow the navy to take a higher risk in running the current submarines longer into the future (pushing all the replacement costs off to the right and thereby reducing the current value of the capital costs), to widen the drumbeat of production for the new SSBNs (from two to perhaps three years), to reduce the readiness of submarines in port preparing to relieve patrolling boats (both current and future systems) and thereby to reduce operating costs and possibly crew numbers. It would also be possible to maintain such a posture with three rather than four boats, according to the TAR saving between £1.5bn (Net present value) and £4bn (in cash terms) in capital costs. This policy could end up giving average savings of the order of £200m a year over the operational life of the system when compared to current plans.

### Maintaining a continuous patrolling capacity

An alternative would be to introduce a policy of maintaining an SSBN fleet with the capability of ramping up to a continuous patrolling posture for a limited period during temporary crises, but otherwise being out on patrol on occasion for purposes of training and exercises, with or without nuclear weapons. This might require two or three boats, depending upon the level of certainty required to maintain capacity for continuous patrolling over limited periods, and is the policy position agreed by the Liberal Democrats in their Autumn Conference of September 2013.

Savings in annual running costs could be realised from reduced crews and from contingency protection forces. It might also be possible for warheads to be deployed rarely for the purposes of testing confidence in the firing chain, enabling further reductions in the number and costs of warheads, as well as a reduced requirement for new missiles in the mid-2030s. This could yield savings of several hundred million pounds a year over current plans, possibly well over £500m and up to £1bn.

### The Timetable for replacement

The present timetable for replacing the Vanguard submarines, with the Main Gate decision in 2016, has been presented by the government as already stretching the current systems to the limit of safety and reliability. Practitioners generally assume that the extension programme already takes the Vanguard into unforeseen and unknown realms. To extend the timetable further could present substantial risks to the mission in the final years of the Vanguard submarines before their replacements are ready for deployment; it could also entail significant costs in keeping them fully and reliably functional. Some Commissioners accept that such risks require taking the Main Gate decision in 2016 and no later.

This urgency is, however, based on a set of assumptions notably about the service life of the current submarines, the length of time taken to build replacements, and the maintenance of the existing posture. The background to the judgments made by the authorities on these points has never been fully made public. It is questioned by a number of independent experts who point out, for example, that the nearest equivalent to the Vanguards – the US Ohio-class submarines – have had their planned life extended to 44 years (a full decade longer than the Vanguards' extended life). In response, the government asserts there are differences in safety standards, in the Vanguard design and in specified limitations on the expected life-span of some components, such as the submarines' reactors.



The official timetable is also designed to keep the submarine fleet on continuous patrol at present levels. If a different judgment was made on CASD, this would open up other options for staged replacement, with consequent delayed and reduced expenditure. Any revised time-plan would, of course, have other implications to be looked at seriously, including the impact on the industrial base.

The government has a responsibility to assess the timing issue soberly with a keen eye on impacts to national security. If it came to the view that further delay in the Main Gate decision and/or the rest of the replacement schedule was acceptable in this light, there would be evident benefits in terms of reduced near-term expense, and more time and flexibility for finding optimal solutions.

Greater transparency, within the frame of what security allows, would help in the understanding of this important practical issue both at home and abroad. The Commission urges the government to provide a detailed technical public assessment and rationale covering the timing factors mentioned above, and any others relevant, before the time of the currently planned Main Gate decision in 2016.

## Cooperation with the United States and France

Greater nuclear weapon cooperation with France and the United States, whilst retaining a British nuclear arsenal, holds several attractions, not least the opportunity for substantial financial savings, buttressing alliance relationships, and opening possibilities for reduced national patrolling and reductions in overall holdings.

### United States

Mutual trust and operational frequency of engagement over secret material between the US and the UK is intense and has deep roots, though concerns are expressed from time to time that such trust is easily weakened. A great deal of attention is thus given to maintaining this relationship on the grounds of its mutual benefit. US-UK cooperation has lain at the heart of the UK's foreign policy, and looks set to remain so for the foreseeable future.<sup>25</sup>

John Simpson's briefing for the Trident Commission explains how the evolution of the UK's nuclear weapons programme was deeply entwined with the Americans, in the context of the commitment to NATO, as a means of ensuring that the Americans would not face the simple choice of risking their cities or losing Europe, a commitment that continues today.<sup>26</sup>

The briefing points out that the UK is dependent upon procurement from the United States, which heavily skews the design of UK systems when requirements are different, and underlines the NATO commitment. The relationship also involves a level of operational co-ordination between US Commanders in NATO and the British SSBN submarines, and the possibility of a request by such commanders in a future conflict for British submarines to be involved in a nuclear strike.

There are close scientific exchanges of personnel and data between the two countries, and in the past exchange of materials has taken place, including of plutonium and tritium. The British Trident warheads are assumed to be very close to the US W76 warhead for the Trident I and Trident II systems. The UK is dependent on the United States for many component parts of the guidance and re-entry vehicle, and for the Trident ballistic missile system itself.<sup>27</sup> The United States has provided the UK with so much technological assistance that, at least in the opinion of a declassified CIA report, for the UK to pass on much of its nuclear knowledge to another country would require express US permission.<sup>28</sup> In effect, the United States has a veto on cooperation between the UK and France.

### France

Recent years have seen qualified and limited success in attempts to build nuclear weapons cooperation between the UK and France, for a variety of reasons outlined in the Trident Commission's briefing authored by Bruno Tertrais.<sup>29</sup> This briefing gives an excellent in-depth analysis of the history and nature of the bilateral nuclear relationship. There are many reasons why the two countries, of similar size and approach to military security, with very close vital interests, should attempt to cooperate more closely in this area.

In a treaty on nuclear cooperation signed in November 2010, the two parties agreed to cooperate, including through the exchange of classified information, in the areas of:

- The safety and security of nuclear weapons;
- Stockpile certification; and
- Countering nuclear or radiological terrorism.<sup>30</sup>

They also agreed to build and jointly operate radiographic and hydrodynamic facilities used in stockpile stewardship activities. More ambitious collaboration might face constraints, not least in the form of potential opposition from the United States.

Writing in his Trident Commission briefing, Bruno Tertrais claims that ‘UK and French nuclear policies and postures are largely similar, more so than they were during the Cold War, a product of convergent policy outlooks and of bilateral dialogue.’<sup>31</sup> The French and British not only share a strategic environment but also their strategic values, along with their nuclear doctrine and posture.

Nevertheless, the historical significance and national status attached to the French deterrent is of a different quality from the UK’s, a reaction to the memory of the German invasion in 1940 and a legacy of Gaullist approaches to a strong independent state rooted in an integrated Europe.<sup>32</sup> France will find it extremely difficult to dilute its nuclear autonomy.<sup>33</sup>

The obstacles are not one-sided. With recent economic troubles in Europe, resistance within the UK to integration into Europe appears as strong as ever, and though this may not amount to opposition to a bilateral military relationship with France, it still presents an obstacle to extended cooperation. Prime Minister David Cameron has explicitly ruled out any talk of joint nuclear submarine patrols with the French for the foreseeable future.<sup>34</sup>

### **Obstacles to further operational cooperation**

At first glance there ought to be scope for greater operational collaboration with either or both the United States and France. All three states are within NATO and depend upon continuous submarine patrolling for their nuclear posture and are stretched financially.<sup>35</sup> With similar threat environments, joint patrols with France would seem a logical solution, leading to significant savings without sacrificing the principle of continuous deterrence.<sup>36</sup> Bruno Tertrais has argued previously that ‘both countries would have to agree that their “vital interests” are completely identical, to the point that either of the two could theoretically exercise deterrence in the name of the other.’<sup>37</sup> Sovereignty instincts make this problematic. It would not be possible to share a firing chain that depends upon a single Prime Minister or President (or his/her alternate) initiating it.

On the other hand, such an arrangement would require less mutual trust than that currently demanded of those states dependent upon extended deterrence, because each state would still possess the capability of sailing its own submarines as a crisis emerged. Extended deterrence does not demand identical vital interests, but rather overlapping interests and expressions of alliance commitment.

Media reports suggest that in 2010 French President Nicolas Sarkozy reached out to the UK with a view to considering a shared nuclear deterrent, but was rebuffed by Prime Minister Gordon Brown, citing domestic political concerns and the upcoming general election.<sup>38</sup> The prevailing view in the British political mainstream is that the relationship with the United States cannot be risked by getting too close to the French.<sup>39</sup> But in the long run, in the timescale of the next generation of nuclear systems, closer cooperation with the French should not be discounted, and could even be welcomed in Washington for strategic and financial reasons.

So much for the bilateral relationship, but what of the European Union and the joint deterrent operating as part of its Common Foreign and Security Policy (CFSP)? The French have always been interested in the possibility that their nuclear arsenal could form the basis of such an arrangement.<sup>40</sup> This would demand a complex negotiation to come to a joint doctrine for minimum nuclear and conventional deterrence, much as has evolved under NATO over the decades of the Cold War and since.<sup>41</sup> Given the current state of the UK political debate over European integration in other, far less contentious areas, this possibility does not seem likely in the near future. It has taken many years of proposals and initiatives to develop a weak form of defence procurement collaboration that has seen as many failures as successes. The European defence industrial base remains fragmented.

The NPT commits nuclear-weapon states ‘not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly’. This has been interpreted to include warhead technology. Because the Mutual Defence Agreement between the UK and the United States predates the NPT, it has been interpreted by the two governments as being a legally acceptable exception, though this is contested.<sup>42</sup> There has been less controversy over the Teutates agreement with France, largely because of the limits to the programme.

The choice of system and posture must be credible when considering national security and alliance relationships. But it also must consider the impact on the UK’s non-proliferation objectives, critical themselves to the UK’s national security interests, and the UK’s responsibilities to the wider international community. In the next chapter we consider these responsibilities in more detail.

## Footnotes for Chapter 2

- 1 'Trident Alternatives Review (TAR); Cabinet Office, July 2013, <https://www.gov.uk/government/publications/trident-alternativesreview>
- 2 'The Future of the United Kingdom's Nuclear Deterrent,' December 2006, CM 6994, p.22, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/27378/DefenceWhitePaper2006\\_Cm6994.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/27378/DefenceWhitePaper2006_Cm6994.pdf) The paper goes on to say that: 'There are a number of ways in which this might be achieved: by making the system invulnerable to attack; by having a sufficiently large capability that even a full scale attack would not prevent the launch of an effective counter strike; by making the system difficult to target, most obviously by making it undetectable; and by holding the system continuously at a sufficiently high level of readiness that it could be launched before any pre-emptive strike takes effect.'
- 3 To read the government's own presentation of these 'characteristics of credibility' in the 2006 Defence White Paper, see 'The Future of the United Kingdom's Nuclear Deterrent,' December 2006, Crown copyright, CM 6994, Section 4: Ensuring Effective Deterrence, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/27378/DefenceWhitePaper2006\\_Cm6994.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/27378/DefenceWhitePaper2006_Cm6994.pdf)
- 4 The first Resolution class fleet of submarines carried Polaris missiles and the second and current Vanguard class, the Trident D5 missile.
- 5 'Trident Alternatives Review,' *Cabinet Office*, July 2013, paragraph 2, p.3, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/212745/20130716\\_Trident\\_Alternatives\\_Study.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/212745/20130716_Trident_Alternatives_Study.pdf)
- 6 'Trident Alternatives Review,' *Cabinet Office*, July 2013, paragraph 5, p.3, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/212745/20130716\\_Trident\\_Alternatives\\_Study.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/212745/20130716_Trident_Alternatives_Study.pdf)
- 7 'Trident Alternatives Review,' *Cabinet Office*, July 2013, paragraph 3.6, p.23, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/212745/20130716\\_Trident\\_Alternatives\\_Study.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/212745/20130716_Trident_Alternatives_Study.pdf)
- 8 There is some uncertainty surrounding Russia's submarine patrolling today. They had been operating very few patrols each year since the end of the Cold War (and were winding them down from the mid 1980s). According to Hans M. Kristensen and Robert S. Norris writing in the Nuclear Notebook 2014, the Russian Navy had planned to resume continuous patrolling in 2012 but they saw little indication of this happening (*Bulletin of the Atomic Scientists* 2014, 70:75-85). According to private communication with Pavel Podvig, who maintains the Russian Strategic Nuclear Forces blog, Russian submarines do not go on long continuous patrols but rather stay in port ready to fire from the pier or to go to sea on a short notice. However, other private communications with officials in London indicate a belief that Russian submarines are now at, or near, a CASD posture.
- 9 The number of warheads aboard each sub will be reduced from 48 to 40, the total number of operationally available nuclear warheads reduced from fewer than 160 to no more than 120 and the overall number of nuclear weapons that the UK has will be reduced from around 225 to not more than 180 by the mid-2020s.
- 10 This assumes that such a system would have a range similar to Trident missiles.
- 11 Toby Fenwick, 'Defending the Future: A Rational Approach to the UK's Future Nuclear Arsenal', BASIC, September 2013, <http://www.basicint.org/sites/default/files/rationalapproach-fenwick-basic-wmda.pdf>
- 12 'Securing the UK in an Age of Uncertainty, The Strategic Defence and Security Review (SDSR),' HM Government, CM 7948, October 2010, p.38, [http://www.direct.gov.uk/prod\\_consum\\_dg/groups/dg\\_digitalassets/@dg/@en/documents/digitalasset/dg\\_191634.pdf](http://www.direct.gov.uk/prod_consum_dg/groups/dg_digitalassets/@dg/@en/documents/digitalasset/dg_191634.pdf)
- 13 'Securing the UK in an Age of Uncertainty: The Strategic Defence and Security Review (SDSR),' HM Government, CM 7948, October 2010. The numbers mentioned with regard to operational launch tubes come in the Foreword to the paper and the numbers on both missiles and warheads from pages 37-39. For the previous doctrine, see The Future of the British Nuclear Deterrent, House of Commons Library Research Paper 06/53, November 2006, Summary of main points.



- 14 For a discussion of the UK deterrent force before 1969, which was based on the RAF's V-bomber force, see Robert H. Paterson, 'the UK's Strategic Nuclear Deterrent: From Before the V-bomber to Beyond Trident,' London, Frank Cass & Co, 1997. The figures used here for warheads held in the 1970s are drawn from the 1998 Strategic Defence Review, Supporting Essay Five, on Deterrence, Arms Control and Proliferation, paragraph 10, Figure 1. The total stockpile range of 500-600 weapons is inferred from the approximately 450 weapons the government said were operationally available at that time, and because, in the government's own words: 'The figures for operationally available numbers additionally exclude missile warheads held as a necessary processing margin or for technical surveillance purposes.' In other words, 450 would be the minimum number held and the need for technical surveillance and other processing implies maintenance of an additional stock over and above this number, hence our estimate in the 500-600 range. A recent independent assessment by Hans M. Kristensen and Robert S. Norris has also estimated the UK stockpile in the 1970s at 520 warheads. See 'Nuclear Notebook, British Nuclear Forces', 2011, *Bulletin of the Atomic Scientists* 67(5), pp. 90-91.
- 15 Strategic systems were those intended for 'global' impact and would be directed against core targets in the heart of the Soviet Union in a situation of total war. Sub-strategic systems were designed for encounters that ran just short of total war; the use of a limited number of warheads to demonstrate resolve, or to 'de-escalate'. Tactical systems were of limited or short range and for use on the battlefield where conventional weapons were seen as insufficient for the purpose.
- 16 This position is re-iterated in 'The Strategic Defence and Security Review: Securing the UK in an Age of Uncertainty,' HM Government, October 2010, p. 37, [http://www.direct.gov.uk/prod\\_consum\\_dg/groups/dg\\_digitalassets/@dg/@en/documents/digitalasset/dg\\_191634.pdf](http://www.direct.gov.uk/prod_consum_dg/groups/dg_digitalassets/@dg/@en/documents/digitalasset/dg_191634.pdf)
- 17 *ibid*, pp.37/38.
- 18 Nuclear Posture Review Report, US Department of Defense, April 2010, pp.15-17. Available at: <http://www.defense.gov/npr/docs/2010%20nuclear%20posture%20review%20report.pdf>
- 19 Foreign Secretary William Hague's letter to Sir John Stanley, Chairman of the House of Commons Committees on Arms Export Controls, 20 February 2012, text available on the Quadripartite Committee website here: <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmquad/419/419we47.htm>
- 20 'Legality of the Threat or use of Nuclear Weapons: Advisory Opinion,' International Court of Justice, July 1996, <http://www.icj-cij.org/docket/files/95/7497.pdf>
- 21 'The Strategic Security and Defence Review: Securing the UK in an Age of Uncertainty' HM Government, October 2010, p. 38, [http://www.direct.gov.uk/prod\\_consum\\_dg/groups/dg\\_digitalassets/@dg/@en/documents/digitalasset/dg\\_191634.pdf](http://www.direct.gov.uk/prod_consum_dg/groups/dg_digitalassets/@dg/@en/documents/digitalasset/dg_191634.pdf)
- 22 'Trident Alternatives Review,' Cabinet Office, July 2013, paragraph 1.3, p.13, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/212745/20130716\\_Trident\\_Alternatives\\_Study.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/212745/20130716_Trident_Alternatives_Study.pdf); see also UNA-UK, 'The UK's Nuclear Weapons Conundrum: Ethics, Threats, Aspirations & Democratic Accountability,' N.d, BASIC, [http://www.basicint.org/sites/default/files/evidence\\_submitted\\_by\\_una-uk\\_0.pdf](http://www.basicint.org/sites/default/files/evidence_submitted_by_una-uk_0.pdf)
- 23 This was certainly the explicit finding of the 'Trident Alternative Review,' Cabinet Office, July 2013, paragraph 3.36, p.29 from classified analysis, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/212745/20130716\\_Trident\\_Alternatives\\_Study.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/212745/20130716_Trident_Alternatives_Study.pdf)
- 24 Cost savings from building a smaller number of submarines are contentious. Fixed costs are high, so reducing numbers will yield less than a proportionate reduction in cost. Some have gone so far as to argue that the principal driver of cost is the decision to retain a domestic submarine-building capacity. John F. Schank, Jessie Riposo, John Birkler and James Chiesa, 'The United Kingdom's nuclear submarine industrial base: Sustaining Design and Production Resources,' RAND, 2005. This report argued that a "drumbeat" of one submarine every two years was the minimum – equating to a total fleet of 12 submarines with a service life of 25 years – and that falling below this would simply result in a need to artificially support and subsidize the industry, rather than any genuine cost savings. The UK's nuclear powered submarine fleet is currently eleven (7 attack submarines and 4 nuclear weapon submarines) so, on this argument, the UK is already at the minimum amount of work to sustain the industry, and any further reduction or delays in procurement may yield negligible savings.
- 25 Admiral William Crowe, a former US Ambassador to the UK says, 'there is quite a bit of everyday business that goes on between our two governments in a fashion that's unprecedented in the world.' Nigel Chamberlain, Nicola Butler and Dave Andrews, 'US-UK nuclear weapons collaboration under the Mutual Defence Agreement: Shining a torch on the darker recesses of the "special relationship",' *ISN*, June 2004, p.20, <http://www.isn.ethz.ch/isn/Digital-Library/Publications/Detail/?ots591=0c54e3b3-1e9c-be1e-2c24-a6a8c7060233&lng=en&id=29373>
- 26 The 1958 Mutual Defence Agreement explicitly requires this. John Simpson, 'Deterrence, Disarmament, Non-Proliferation and UK Trident,' Discussion Paper 4 of the BASIC Trident Commission, BASIC, March 013, No. 4, *BASIC*, [http://www.basicint.org/sites/default/files/basic\\_tridentcommission\\_johnsimpsonbrief\\_mar2013.pdf](http://www.basicint.org/sites/default/files/basic_tridentcommission_johnsimpsonbrief_mar2013.pdf). Jennifer Mackby and Paul Cornish, 'U.S.-UK nuclear cooperation after 50 years,' Center for Strategic and International Studies, 2008, [http://csis.org/files/media/isis/pubs/080814\\_macky\\_usuk\\_nuclear\\_frontmatter.pdf](http://csis.org/files/media/isis/pubs/080814_macky_usuk_nuclear_frontmatter.pdf)



- 27 John Ainslie, 'The Future of the British Bomb,' WMD Awareness Programme, 2005, <http://goo.gl/pCo57B>
- 28 'Special national intelligence estimate: Prospects for further proliferation of nuclear weapons,' 1974, *Central Intelligence Agency*. Declassified Report.
- 29 Bruno Tertrais, 'Entente Nucleaire: Options for UK-French Nuclear Cooperation,' *BASIC*, Discussion Paper 3 of the BASIC Trident Commission, June 2012, [http://www.basicint.org/sites/default/files/entente\\_nucleaire\\_basic\\_trident\\_commission.pdf](http://www.basicint.org/sites/default/files/entente_nucleaire_basic_trident_commission.pdf)
- 30 'Treaty between the United Kingdom of Great Britain and Northern Ireland and the French Republic relating to Joint Radiographic/Hydrodynamics Facilities,' 2 November 2010, Treaty entered into force on 1 September 2011, *Foreign and Commonwealth Office*, Treaty Series No. 15 (2012), [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/238226/8289.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/238226/8289.pdf)
- 31 Bruno Tertrais, 'Entente Nucleaire: Options for UK-French Nuclear Cooperation,' *BASIC*, Discussion Paper 3 of the BASIC Trident Commission, 2012, p. 12.
- 32 Jonathan Marcus, 'France's enduring nuclear deterrent,' BBC, March 2012, <http://www.bbc.co.uk/news/world-radio-and-tv-17512596>; Helen Parr, 'The politics of Anglo-French nuclear co-operation under the Heath government,' BISA Annual Conference, Manchester, April 2011, p.27.
- 33 Matthew Harries, 'The UK and France as nuclear partners.' *Survival: Global Politics and Strategy*, February 2012, Vol.54 No.1, pp.7-30, <http://www.iiss.org/-/media/Silos/Survival/2012/Survival--Global-Politics-and-Strategy-February-March-2012/54-1-02-Harries/54-1-02-Harries.pdf>
- 34 Edward Cody, 'France, the UK sign treaties calling for unprecedented military cooperation,' *The Washington Post*, November 2010, <http://www.washingtonpost.com/wpdyn/content/article/2010/11/02/AR2010110203390.html>.
- 35 The French have an air-launched element, but this plays a secondary role.
- 36 Bruno Tertrais, 'The last to disarm? The future of France's nuclear weapons,' *The Nonproliferation Review*, July 2007, Vol.14, No.2, p.268.
- 37 *ibid.*
- 38 John Lichfield and Kim Sengupta, 'The UK and France may share nuclear deterrent,' *The Independent*, September 2010, <http://www.independent.co.uk/news/world/politics/britain-and-france-may-share-nuclear-deterrent-2093539.html>; Julian Borger and Richard Norton-Taylor, 'France offers to join forces with UK's nuclear submarine fleet', *The Guardian*, March 2010, <http://www.guardian.co.uk/world/2010/mar/19/francebritain-shared-nuclear-deterrent>
- 39 Patrick Wintour and Allegra Stratton, 'UK and France build nuclear deterrent together, says minister,' *The Guardian*, 2011, <http://www.guardian.co.uk/world/2011/apr/01/uk-france-build-nuclear-deterrent>; Bruno Tertrais, 'Entente Nucleaire: Options for UK-French Nuclear Cooperation,' Discussion Paper 3 of the BASIC Trident Commission, *BASIC*, June 2012, [http://www.basicint.org/sites/default/files/entente\\_nucleaire\\_basic\\_trident\\_commission.pdf](http://www.basicint.org/sites/default/files/entente_nucleaire_basic_trident_commission.pdf). Questions have also been raised about this option in the Scottish Affairs Committee, with Peter Luff MP suggesting that, 'The idea of dumping off the boats there [France] for a few years while we sort out a long-term solution would be a little tricky to manage'. 'The referendum on separation for Scotland', London: The Stationery Office, *Scottish Affairs Committee*, 2012, <http://www.publications.parliament.uk/pa/cm201314/cmselect/cmscotaf/828/828.pdf>
- 40 Mary Dejevksy, 'Chirac offers nuclear deterrent to EU partners,' *The Independent*, September 1995, <http://www.independent.co.uk/news/world/chirac-offers-nuclear-deterrent-to-eu-partners-1598889.html>
- 41 Roberto Zadra, 'European integration and nuclear deterrence after the Cold War', Western European Union Institute for Security Studies, September 1995, p. 15, <http://ftp.infoeuropa.euroid.pt/files/database/000000001-000005000/000002314.pdf>
- 42 Nigel Chamberlain, Nicola Butler and Dave Andrews, 'US-UK nuclear weapons collaboration under the Mutual Defence Agreement: Shining a torch on the darker recesses of the "special relationship"', *ISN*, June 2004, p.20, <http://www.isn.ethz.ch/isn/Digital-Library/Publications/Detail/?ots591=0c54e3b3-1e9c-be1e-2c24-a6a8c7060233&lng=en&id=29373>. There was a legal opinion on the MDA provided in 2008 from Matrix Chambers suggesting that the MDA directly contravened the NPT, Article 1: 'Legal opinion: Mutual defence agreement and the Nuclear Non-Proliferation Treaty', *BASIC*, July 2008.

# Chapter 3

## Diplomacy, non-proliferation and the disarmament ladder

### Introduction

The spread of nuclear weapons is one of the most worrying threats facing current and future strategic planners in the UK. Efforts to restrict both ownership of them and their overall numbers have to be a primary policy priority. Britain's choices over its national nuclear posture will have little direct impact upon the choices of potential proliferators, which are largely determined by regional circumstances on which Britain has scant influence.<sup>1</sup> Where the UK does carry weight is in its involvement at the global level in non-proliferation and disarmament diplomacy and through its advocacy of measures to limit and safeguard all weapons of mass destruction. With a stronger regime, and with nuclear weapon states clearly abiding by their international obligations, most governments are more willing to abide by the agreed constraints on their activities and find security without seeking nuclear weapons. At the same time it becomes more difficult for either state or non-state proliferators to acquire nuclear weapons without detection.

Successive British governments have seen the Non-Proliferation Treaty (1968) as the cornerstone of international efforts to curb the spread of nuclear weapons: 'the NPT has helped ensure that fewer states have acquired nuclear weapons than many predicted, even if the number of nuclear armed states has slowly increased'.<sup>2</sup> They have explicitly accepted the core bargain at the root of the Treaty that the NPT must be strengthened across its three pillars of disarmament, non-proliferation and the controlled promotion of civil nuclear technology.

While the NPT has been generally successful in limiting nuclear proliferation over its 44 years in force, it has suffered several significant challenges to its efficacy.

These include the explicit testing and deployment of nuclear weapons by India and Pakistan, the deployment of nuclear weapons by Israel in a region characterised by instability, the exit from the Treaty and nuclear testing by North Korea, the ambiguous nature of Iran's nuclear programme and its defiance of international attempts to control its development, the failure of member states to progress on the commitment to negotiate on a WMD-Free Zone in the Middle East and the entrenched positions of those states that have stayed outside of the treaty. They also include the widespread perception amongst non-nuclear weapon states that the nuclear weapon states have not moved far and fast enough on their commitments to disarm. Many believe that the regime is fraying at the edges, and that the positive outcome to the 2010 NPT Review Conference will be hard to repeat in future Reviews. The NPT needs to attract much greater confidence from all its members, and this will require stronger measures to control proliferation, and stronger evidence amongst nuclear weapon states of their sincerity in negotiating disarmament.

### Non-proliferation and disarmament

There is therefore a strong UK interest in helping to sustain momentum in the NPT process and in taking decisions in the UK national security framework that do not carry negative implications for NPT diplomacy.

The UK government has focused a good deal of energy on developing the verification and enforcement of non-proliferation norms. We have come to live with the uncertainty created by the possession of nuclear weapons by some of Britain's competitors and by unstable states, but the further spread of nuclear weapons is seen as highly dangerous. Equally importantly, it is clear that a comprehensive, stable approach to achieving multilateral disarmament requires strong confidence in the architecture of the non-proliferation regime.

## Creating the conditions for disarmament

Beyond the more immediate choices for the UK in responding to the current situation, what conditions would need to pertain for a world free of nuclear weapons? In a particularly forward-looking official document in 2009, 'Lifting the Nuclear Shadow: Creating the Conditions for Abolishing Nuclear Weapons', the Foreign Office identified a number of necessary conditions:

- positive relationships between the big powers, with trust high enough and interdependence clear enough to show a strong mutual interest in stability;
- credible controls on other forms of technology that could be used to gain military advantage;
- robust collective security arrangements to generate confidence in the detection of challenges or cheating on the international system, agreement on handling challenges to international peace and security in the UN Security Council, and cooperation over the means of enforcement; and
- stronger, more cohesive global governance across the board and particularly in the field of international security.

These factors are highly desirable in their own right, and describe well the conditions conducive to global nuclear disarmament. Nevertheless, to condition all progress in disarmament on the basis that the security conditions need first to improve dramatically would be to deny the progress that was achieved in arms control between the superpowers locked in strategic competition throughout much of the last century. Disarmament is a process that interacts with stronger international relations and mechanisms for managing them. Multilateral disarmament and associated verification and confidence-building mechanisms can play a proactive role in improving trust and security relationships between states, as well as being an expression of that improvement.

There has been vigorous debate about the effectiveness of nuclear deterrence in maintaining stability and global security, and our understanding of the dynamics has evolved with that debate and the experience of the last 70 years. States' attachment to nuclear deterrence could weaken in future as social and commercial networks become more global and if societies continue to mix with less clear-cut single national identities and allegiances.

They are likely to develop alternative technologies or methods to manage and contain their disputes and the forces of instability, without necessarily escaping them. This is all the more likely as globalised social and commercial networks become more global based upon information and communication, nano and bio technologies deepen, and if societies continue to mix together with less clear-cut single national identities and allegiances.

Ambitious as they appear, the four conditions outlined by Lifting the Nuclear Shadow form the basic mutual objectives for a plan of action the international community needs to evolve. The UK could propose an international initiative involving the 'P5 process', NPT Review Conferences and the United Nations machinery for states to develop and commit to such a plan of action with these objectives. It would be inappropriate for us, the Commission, to come up with our own plan, but we are clear that this is a responsibility of all members of the international community, particularly those governments that wield greater institutional and political influence, such as the UK.

If the British government's policy of promoting, in the longer term, a world free of nuclear weapons is to be pursued effectively, we need to be clear about its relationship to our national security decision-making.<sup>3</sup> The ideal world, where all states have abandoned their nuclear arsenals, where we look ahead with confidence three to four decades into the future, and where power is clearly in the hands of allies and institutions in which we can trust, will not be achievable in the foreseeable future. Are there less rosy possibilities that could enable us to move further down the disarmament ladder without compromising our security?

Lifting the Nuclear Shadow outlined options for promoting progress on the three NPT pillars: disarmament, non-proliferation and peaceful uses of nuclear energy. The document stated that the UK would 'continue to work towards the total elimination of our own nuclear arsenal and all others through multilateral, mutual and verifiable agreements'. Furthermore, when 'useful', the government would willingly include in any negotiations 'the small proportion of the world's nuclear weapons that belong to the UK'.<sup>4</sup>

The paper went on to acknowledge that the nuclear weapon states have a 'special responsibility' to lead on eliminating nuclear weapons, but that this first requires certain 'political and security conditions' to be met, via 'a co-operative project with the active engagement of the entire international community'.<sup>5</sup>

It suggests a number of short-term multilateral steps to address nuclear dangers, constrain development, and encourage further reductions in arsenals, including:

- strengthening non-proliferation measures;
- a much greater capacity for the International Atomic Energy Agency (IAEA) in ensuring nuclear expansion occurs in a well-controlled manner with high standards of safety, security and safeguards in mind;
- further bilateral reductions between the US and Russia, and other states freezing their numbers and planning for reductions too;
- the entry into force of the Comprehensive Test Ban Treaty (CTBT);
- the conclusion and verification of a fissile material cut-off treaty (FMCT), and potential controls on the stockpiles of civil and military fissile material;
- a nuclear weapons control treaty, focused on safety and security involving international inspectors;
- a further expansion in the number of scope of nuclear weapon free zones, with particular reference to the Middle East WMD Free Zone proposal; and,
- redoubling efforts to address the many complex political, military and technical issues that drive strategic conflict between states.

The Commission sees this list as having important value within the international non-proliferation debate, though it is not exhaustive. The final point in particular deserves some attention - it is easily said but very complex. It would involve serious attempts to form regional security structures to manage conflicts between states, ideally drawing in those states that currently see themselves as isolated or that have little investment in international structures; or, if necessary, more effectively containing such states to minimise the threats they present. It would also help a great deal if the larger powers, particularly those on the UN Security Council, made a greater effort to reach a common understanding of the importance of unified action in these areas, and of the consequences for regional security.

Some non-nuclear weapon states contend that a continued and apparently undiminished commitment to nuclear deterrence sits in sharp contrast to multilateral commitments to nuclear disarmament. The Commission is conscious of the need for the UK to minimise any harmful impact on international efforts to prevent proliferation arising from a decision to renew Trident.

## The 'P5 process'

The 'P5 process', launched by the UK in September 2009, came out of the government's attempt to achieve a balance between the renewal of its Trident programme and a renewed push for multilateral disarmament. It holds important promise for confidence-building between the nuclear weapon states and for coordinating their contribution to the strengthening of the NPT. It presents the best opportunity for a multilateral disarmament forum, though it still has a long way to go before such talks can begin in earnest. The five are currently focusing their attention on agreeing early steps to achieving greater transparency, for example.<sup>6</sup> They would do well to reflect collectively on how core concepts like 'nuclear deterrence' should apply in the 21st century context.

Up until now treaties limiting the numbers of warheads held by nuclear-armed states have been bilaterally agreed between the holders of the two largest nuclear arsenals, the United States and Russia (formerly the Soviet Union). The latest agreement, the New Strategic Arms Reduction Treaty (START), concluded in April 2010 and ratified some months later, involves a maximum number of operational warheads (1550 after 2018) and delivery vehicles (700 deployed), along with clear counting rules and an active inspection regime (focused upon the facilities and delivery vehicles). This agreement and its related verification processes help establish a level of confidence in the numbers and posture deployed, and limit the possibility of rapid upload and destabilising rearmament. As the UK considers multilateral arrangements with other nuclear weapon states, it may be the right time now to consider voluntarily taking part in some of the transparency and inspection measures associated with the New START process, whilst not becoming a formal party to the Treaty. These would not expose secrets about the warheads, but could involve both tagging missiles that are part of the common pool with the Americans, whose missiles are already tagged, and challenge inspections involving particular missiles. British entry into this system without any reduction in the number of warheads or missiles deployed would demonstrate an important step by the UK into a verification system and a readiness to join multilateral treaty limitations when the time is right (perhaps after the United States and Russia take the next step in reducing warheads).

The 'P5 process' also holds potential for establishing a dialogue between member states on how their strategic relationships, including but also going beyond the nuclear realm, can better contribute to international stability as we approach likely stress points. This would include stronger cooperation in resisting the proliferation of sensitive strategic technologies.



## Legal responsibilities

The UK, recognised under the NPT as a nuclear weapon state, has responsibilities shared with all members of the Treaty (under Article VI) to participate in negotiations to bring to an end the nuclear arms race, to engage in multilateral disarmament negotiations, and to fulfill a number of commitments made at successive NPT Review Conferences. It has been suggested that the renewal of Trident is contrary to the UK's treaty obligations and international law, by committing us to possession of nuclear weapons into the second half of this century.<sup>7</sup> We do not accept this argument, for while there exists a clear obligation to make progress towards these aims, there is no commitment to a timeline for their achievement. Nor is there an insurmountable barrier to disarmament before that, even if a new system gives the UK a capability to deploy weapons for many decades. The fundamental fact is that Britain is not obliged to disarm unilaterally, and a decision not to renew systems when other states are modernising theirs would amount to such an action.

Britain's record, both in reducing its own arsenal and in initiating international processes to consider collective steps down the nuclear ladder, fully meets current international legal commitments. Nevertheless, with momentum hard to sustain in the NPT Review process and with the geopolitical environment threatening instability in a number of regions, further and stronger proactive efforts are required by the nuclear weapon states to chart the glide path towards disarmament and achieve the conditions necessary for global stability. The UK's decisions on Trident will be seen to have a bearing on this. Some members of the Commission believe that a decision to renew the Trident submarine system on a like-for-like basis would detract from the perception of the UK as a strong contributor to the momentum towards the global reduction of nuclear weapons holdings and make it more likely that the NPT process will lose credibility, and harm prospects for the UK's national security. Other Commissioners regard the UK's lone impact on the process as too slight to override more immediate considerations of UK military capabilities. This remains an important area for further public debate.

## Reputation with the broader international community

If Britain were to break ranks with the rest of the nuclear weapon states, it might diminish the strength of its leverage on the other four, but strengthen its reputation amongst much of the international community, even including some of its non-nuclear NATO allies looking for progress on disarmament.

It might also help to breathe new optimism into the NPT agenda. So far the 2015 review cycle has appeared stymied by differences between the nuclear and non-nuclear weapon states and by perceptions of a lack of progress in key commitments. This argument, however, depends on positive assumptions about other states' reactions to such moves.

A more sceptical view holds that a decision by the UK to relinquish its nuclear arsenal could simply reflect or speed up a process of UK adjustment to a role as a middle-ranking power alongside other European powers, relying more on diplomacy and cultural and economic influence than on membership of an elite hard-power group.

Either way, decisions over Trident have to take account of the seriousness of the proliferation threat. Whatever dispositions we make for our national security hardware, the UK has a strong interest in creating a global, multi-dimensional process which strengthens the non-proliferation regime, provides tighter safeguards and other cooperative arms control processes, and builds confidence in practical and verifiable moves towards a world free of nuclear weapons.

## More advanced steps down the ladder: threshold status

Later stages of the 'disarmament ladder' involve moves by nuclear-armed states from the realm of minimum deterrence to constructively adopting threshold status on the way to a more permanent and stable global zero. In this interim phase, states would retain their capacity to reconstitute their nuclear arsenals should the necessary conditions arise. The Commission received a briefing on the issue of threshold status, which we publish alongside this report as supporting brief number 4.

The Commission does not consider this to be the time to be making such moves unilaterally. Nevertheless, we believe that it would be beneficial to initiate studies into the conditions that would facilitate a safe move to threshold status, and its associated technologies.

This could be an important confidence-building contribution to the global process of multilateral nuclear disarmament, taking further the current official research work with Norway on nuclear warhead dismantlement. It could assure other nuclear weapon states currently unable to imagine the transition to a world unambiguously free of nuclear weapons that there are way stations that offer security against reversals in the process.

## Endnotes for Chapter 3

- 1 Written evidence Admiral the Lord Boyce, 'Future of UK Nuclear Weapons Policy,' BASIC Trident Commission, September 2011, [http://www.basicint.org/sites/default/files/evidence\\_submitted\\_by\\_admiral\\_the\\_lord\\_boyce\\_0.pdf](http://www.basicint.org/sites/default/files/evidence_submitted_by_admiral_the_lord_boyce_0.pdf)
- 2 'The National Security Strategy of the United Kingdom,' *Cabinet Office*, CM 7291, March 2008, p.11, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/228539/7291.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/228539/7291.pdf)
- 3 Evidence Submitted to the Trident Commission: Keith Barnham, David Caplin, Tom Kibble, Jenny Nelson, David Broucher, BASIC, March 2011, <http://www.basicint.org/tridentcommission/evidencereceived/imperialcollegelondon>
- 4 'Lifting the Nuclear Shadow,' Foreign and Commonwealth Office, 2009, p.12, [http://www.abolitionforum.org/site/wpcontent/uploads/2011/08/lifting-the-nuclear-shadow\\_fco.pdf](http://www.abolitionforum.org/site/wpcontent/uploads/2011/08/lifting-the-nuclear-shadow_fco.pdf)
- 5 *ibid*, p.52.
- 6 The project within the P5 process to agree a common glossary of terms being led by China is a modest but positive step towards that goal. 'Statement by Counselor Zhang Junan of the Chinese Delegation on Nuclear Disarmament at the Thematic Debate at the First Committee of the 67th Session of UNGA,' Permanent Mission of the PRC to the UN, October 2012, <http://www.china-un.org/eng/hyyfy/t980543.htm>
- 7 'Institute for Law and Peace & World Court Project submission to the BASIC Trident Commission,' BASIC, October 2011, [http://www.basicint.org/sites/default/files/evidence\\_submitted\\_by\\_inlap-wcp\\_0.pdf](http://www.basicint.org/sites/default/files/evidence_submitted_by_inlap-wcp_0.pdf); 'ICAN-UK's evidence to the BASIC Trident Commission,' BASIC, September 2011, [http://www.basicint.org/sites/default/files/evidence\\_submitted\\_by\\_ican-uk\\_0.pdf](http://www.basicint.org/sites/default/files/evidence_submitted_by_ican-uk_0.pdf)



# The Trident Commission

*An independent, cross-party inquiry to examine  
UK nuclear weapons policy*

**July 2014**

**We are living through a period of dramatic change in international affairs with new powers emerging, stubborn nuclear proliferation risks both within the community of states and potentially amongst terrorist groups, renewed commitments to multilateral nuclear arms control and disarmament, and growing financial pressure on defence budgets. The UK has to decide priorities as we simply cannot afford to keep high-cost legacy systems that have little relevance to emerging new threats, or old ones that stubbornly reappear. Does the renewal of Trident fit the bill?**

This report arises from a three year review of Britain's current nuclear weapons policy led by Sir Malcom Rifkind, Lord Browne and Sir Menzies Campbell. It met at this most critical of moments making use of the opportunities afforded by the government's decision in 2010 to delay the construction of the replacement submarines until after the next election.

The Commission comprised eminent members of the British political, security, diplomatic and scientific community, and this report has been agreed by consensus. It has been long-awaited as an expression of informed opinion approaching the critical strategic issues associated with nuclear weapons from a national security perspective.

**The report attempts to answer the three key questions:**

- **Should the United Kingdom continue to be a nuclear weapons state?**
- **If so, is Trident the only or best option for delivering the deterrent?**
- **What more can and should the United Kingdom do to facilitate faster progress on global nuclear disarmament?**

Crucially, these three inseparable questions do not lend themselves to simple, easy answers. Nevertheless, this report summarises the extensive work of the Commission, and presents its answers in an accessible manner.

**For more on the work of the Commission, back ground papers, previous briefings and written evidence please visit its website at: [www.basicint.org/tridentcommission](http://www.basicint.org/tridentcommission)**

