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1. REPORT DATE (DD-MM-YYYY) 26 April 2012	2. REPORT TYPE Master's Thesis	3. DATES COVERED (From - To) 25 July 2011 - 17 June 2012
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4. TITLE AND SUBTITLE Boom or Bust: Britain's Nuclear Deterrent Beyond 2025	5a. CONTRACT NUMBER
	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER

6. AUTHOR(S) Commander Timothy C. Green Royal Navy	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Joint Forces Staff College Joint Advanced Warfighting School 7800 Hampton BLVD. Norfolk, VA 23511-1702	8. PERFORMING ORGANIZATION REPORT NUMBER
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9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release, distribution is unlimited.

13. SUPPLEMENTARY NOTES

14. ABSTRACT
Britain's submarine launched nuclear deterrent is due to go out of service by 2025. The Ministry of Defence needs to make severe cuts to its already shrinking budget. The 2016 decision to replace the deterrent submarines will cost a 25 billion pound sum that is currently unallocated. The Conservative and Liberal parties within Britain's coalition government have opposing views on nuclear weapons. Contemporary global threats are ambiguous and, finally, Britain's only nuclear submarine base in Scotland is in jeopardy from an anti-nuclear Scottish regional government striding towards Scottish independence. Britain must take a positive action and soon if it is to guarantee a nuclear deterrent into the middle of this century.

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Unclassified Unlimited	18. NUMBER OF PAGES 77	19a. NAME OF RESPONSIBLE PERSON
a. REPORT Unclassified	b. ABSTRACT Unclassified	c. THIS PAGE Unclassified			19b. TELEPHONE NUMBER (include area code) 757-443-6301

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NATIONAL DEFENSE UNIVERSITY
JOINT FORCES STAFF COLLEGE
JOINT ADVANCED WARFIGHTING SCHOOL



BOOM OR BUST: BRITAIN'S NUCLEAR DETERRENT BEYOND 2025

by

Timothy Cooper Green

Commander Royal Navy

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by

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Commander, Royal Navy

A paper submitted to the Faculty of the Joint Advanced Warfighting School in partial satisfaction of the requirements of a Master of Science Degree in Joint Campaign Planning and Strategy. The contents of this paper reflect my own personal views and are not necessarily endorsed by the Joint Forces Staff College or the Department of Defense.

This paper is entirely my own work except as documented in footnotes.

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17 May 2012

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ABSTRACT

Britain's submarine launched nuclear deterrent is due to go out of service by 2025. The final decision to procure and replace it with a new system has been delayed until 2016, the latest decision deadline the procurement timeline will allow. The decision to replace the British deterrent is beset with challenging questions. Britain has over one trillion pounds of national debt. The Ministry of Defence needs to make severe cuts to its already shrinking budget. The 2016 decision to replace the deterrent submarines will cost a 25 billion pound sum that is currently unallocated. The Conservative and Liberal parties within Britain's coalition government have opposing views on nuclear weapons. Contemporary global threats are ambiguous with regards to the relevance of nuclear weapons. Finally, Britain's only nuclear submarine base in Scotland is in jeopardy from an anti-nuclear Scottish regional government that is making great strides towards a 2014 referendum on Scottish independence. The debate on replacing Britain's nuclear deterrent is a difficult and uncomfortable problem that the coalition government does not wish to confront in the current parliamentary term.

The thesis of this paper is that Britain must take a positive decision by 2016 to continue Britain's nuclear deterrent if it is to guarantee national security into the middle of this century.

The views and opinions expressed in the following pages are entirely those of the author and not, necessarily, those of the Ministry of Defence or the Royal Navy.

ACKNOWLEDGEMENT

I would like to thank my thesis advisor, Dr V.E. Nesmith for his advice and editorial support, also Dr L.G. Dotolo for his patience in proof reading and editing and Jeanne Marie Spurlin for her assistance in research and reference formatting.

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INTRODUCTION

In December 2006 the British government published a white paper entitled "The Future of the United Kingdom's Nuclear Deterrent." In this paper Tony Blair's Labour government of the day, spelt out a commitment to replace Britain's Submarine Launched Ballistic Missile (SLBM) nuclear deterrent with a similar replacement by 2025. This paper stated that

The Government believes that an independent British nuclear deterrent is an essential part of our insurance against the uncertainties and risks of the future. We have therefore decided to maintain our deterrent system with a new generation of ballistic missile-carrying submarines. We will also extend the life of the Trident D5 missile.¹

There was broad cross party support for this paper especially given that the current deterrent, which was due to go out of service in the mid 2020s, seemed a long way over the horizon. Of note, the white paper committed no funds to renew the deterrent as it only agreed in principle to renew Britain's deterrent. The somewhat uncomfortable issue of financing the renewal program would be dealt with at a later date.

Back in 2006 there was little debate surrounding the paper and even the anti-nuclear pressure groups struggled to have their voice heard or effectively lobby within Parliament. Somewhat controversially, the Conservative Member of Parliament (MP) and former Conservative government Defence Minister, Michael Portillo, spoke out against this white paper and the renewal of Trident. Portillo stated that: "The UK should scrap its nuclear arsenal."² Portillo was outspoken and largely alone in his argument that

¹ UK Cabinet Office, The Future of the United Kingdom's Nuclear Deterrent, (Government White Paper CM 6994 December 2006), 5.

² "Scrap Nuclear Arms," Times Newspaper, 19 June 2006.

Britain should commit to unilateral nuclear disarmament, not replace the current deterrent and instead invest more in conventional forces, which at the time were heavily committed within Iraq and Afghanistan. This was supportive rhetoric for the anti-nuclear pressure groups, especially coming from a Conservative and recent Defense Minister too; it was a lone voice and went, largely, unnoticed.

By 2008 storm clouds gathered on global and national economies; banks collapsed, markets went into turmoil and the extent of government debts and borrowing was laid bare. The fiscal outlook for most nations, including Britain, did not bode well. In the spring of 2010 a Conservative led coalition government under the leadership of Prime Minister David Cameron won the general election and formed a new government.

Upon entering 10 Downing Street the new government inherited a fiscal nightmare. Britain had a staggering and unprecedented national debt of 883.4 billion pounds³ and it was growing at an alarming rate. Government departments had been overspending money with little or no accountability. Within the Ministry of Defense (MOD) the finances were dire. The Royal United Services Institute (RUSI) calculated that "When the Coalition Government came to power in May 2010; it identified a large unfunded liability of inherited defense spending plans that was completely unaffordable; there was a funding gap of 74 billion pounds."⁴

The 2006 government white paper, which had decided that Britain's nuclear deterrent should be renewed, now looked somewhat weak given the fiscal situation of 2010. Today the government needs to be ready to commit 25 billion pounds by 2016 in

³ HM Treasury, Debt and Reserves Management Report of 2010 (HM Treasury Annual Report, 2010), 7.

⁴ Malcolm Chalmers, "Looking into the Black Hole: Is the UK Defence Budget Crisis Really Over?" RUSI Briefing Paper (September 2011): 1.

order to start the procurement, development and building processes required for the replacement SUCCESSOR Class Nuclear Deterrent Submarines and supporting infrastructures.⁵ With a defense budget already 74 Billion Pounds in arrears and national debt now at one trillion pounds, the 25 billion pounds required to renew the British nuclear deterrent has yet to be allocated and finding such a sum is a massive financial headache which no-one wishes to confront today.

Money aside, any decision to replace the nuclear deterrent creates political headaches too. Today's Conservative majority government under Prime Minister David Cameron is dependent upon its coalition Liberal Democratic Party colleagues to maintain the required majority for government and the next general election is not due until 2015.

The Liberal Democratic Party, under the leadership of the Deputy Prime Minister Nick Clegg, remains the only major British political party that is totally opposed to nuclear weapons and in favor of unilateral nuclear disarmament. In 2010 Nick Clegg stated that: "Neither Labour nor the Conservatives are prepared to question spending tens of billions of pounds on a like-for-like replacement of Trident."⁶ The opposing views on nuclear weapons taken by both coalition parties forced a temporary compromise that the Liberal Democrats would develop alternative options to replacing Trident. That study is now underway and it is scheduled to report to the Prime Minister by the end of 2012⁷. In advance of this study, the Liberal Democrat Centre Forum think tank published a detailed

⁵ Ibid.,14.

⁶ Nick Clegg, "The Liberal Democrats" RUSI Journal (April-May 2010): 11.

⁷ T. Fenwick, Dropping the Bomb: A Post Trident Future. (London: Centre Forum, 2012), 35.

paper in March 2012 recommending that "the UK should withdraw Trident from service immediately, and plough the savings into British conventional forces."⁸

Senior British military officers too are questioning the relevance of renewing Britain's nuclear deterrent, especially in a climate of drastic cuts to conventional forces. In 2009, retired British military officers Field Marshall Lord Bramall, General Lord Ramsbotham and General Sir Hugh Beach wrote in the Times that: "Nuclear Weapons must not be seen to be vital to the secure defense of self respecting nations."⁹ These generals proposed that Britain should not replace the ageing Trident nuclear deterrent.

The 2010 Strategic Defence and Security Review (SDSR), made significant cuts in the UK's conventional military capabilities, and other government departments also had their spending reigned in. Now is not an ideal time to try and convince a British public, already facing severe public spending cutbacks, that 25 billion pounds is required for replacing the British nuclear deterrent. Conveniently the final decision to procure a new system and provide a nuclear deterrent beyond 2025 will not be taken until the very last opportunity in 2016, a date outside the current parliamentary term.

Lord West, the former Royal Navy First Sea Lord and Government Adviser for security, summed up the current position regarding a decision on replacing Trident when he stated that: "David Cameron has been forced by his Coalition colleagues to kick the final decision on replacing our aging deterrent submarines outside of this parliament, making it a political football."¹⁰

⁸ Ibid., 61.

⁹ "UK does not need a nuclear deterrent," Times Newspaper, 16 January 2009.

¹⁰ H Hamid , What Next for Labour? Ideas for a new generation (London, UK:Queensferry, 2011), Admiral The Right Honourable Lord West of Spithead's Essay: Defence: The Most Important Duty of Government, but sadly not a Vote Winner?

Interestingly little has changed with regards to the deterrent replacement options since the white paper published by Tony Blair's government back in 2006, even though the financial situation has been altered beyond recognition. The very question of what Britain needs in terms of nuclear deterrence beyond 2025 has not been reviewed and is an uncomfortable issue to think about in this current time of austerity.

The thesis of this paper is that Britain must take a positive decision by 2016 to continue Britain's nuclear deterrent if it is to guarantee national security into the middle of this century.

The following chapters will consider Britain's security strategy and examine British nuclear weapons in comparison to those of other nuclear states. International nuclear legislation and treaties will be discussed and the current nuclear and WMD threats will be examined. Finally Britain's role in the world and options for deterrence beyond 2025 will be scrutinized in order to explain why Britain must commit to nuclear deterrence if it is to guarantee national security well into the middle of this century.

CHAPTER 1: UNITED KINGDOM'S SECURITY STRATEGY

National Security Strategy

The Conservative and Liberal Democrat coalition established a National Security Council on the very first day of the current government back in the summer of 2010. The council consisted of government ministers, military and intelligence chiefs and was tasked to produce an updated National Security Strategy (NSS) by the fall of 2010. The previous British security strategy was the 1998 Strategic Defence Review (SDR) which, by 2010, was woefully outdated, especially as it pre-dated the unexpected wars in Iraq and Afghanistan.

At the strategic level, this new NSS would then inform a Strategic Defence and Security Review (SDSR) that would decide what military capabilities Britain would need and should invest in for the short, medium and longer terms. In October 2010, the National Security Council published their NSS under the signatures of Conservative Prime Minister David Cameron and Liberal Democrat Deputy Prime Minister Nick Clegg. This 39 page NSS document laid out two clear objectives and the priority risks to the UK as follows:¹

NSS Objectives

1. To ensure a secure and resilient UK by protecting our people, economy, infrastructure, territory and ways of life from all major risks that can affect us directly.

¹ HM Government, The National Security Strategy (London: HM Stationery Office, 2010), 27.

2. To shape a stable world, by acting to reduce the risks affecting the UK or our interests overseas.

NSS Risks

- Tier One - Highest priority taking into account both likelihood and impact.

- International terrorism affecting the UK or its interests.
- Hostile attacks upon UK cyber space.
- A major accident or hazard, such as coastal flooding.
- An international military crisis between states, drawing in the UK.

- Tier Two - Next highest priorities, given likelihood and impact.

- Attack on the UK by state or proxy using chemical, biological, radiological or nuclear (CBRN) weapons.
- Overseas instability creating a UK terrorist threat.
- Organized Crime.
- Attack upon Satellite communications and information.

- Tier Three - Final priorities given likelihood and impact.

- A large scale conventional military attack on the UK by another state.
(Not involving the use of CBRN weapons).
- Disruption to UK energy supplies.
- Attack on a UK overseas territory as a result of a sovereignty dispute.

Given the prevailing strategic environment of today, the above priorities came as no surprise that terrorist and asymmetric threats were identified as the most significant.

The UK's nuclear deterrence is only mentioned, briefly, once during the whole 39

page document, in the section that is "addressing risks which have a low probability."² Furthermore the document does not offer any debate regarding the low probability but high consequences of those risks that nuclear weapons deter. The NSS was formulated against the backdrop of counter insurgency wars in Iraq and Afghanistan and threats posed by terrorism and cyber warfare. It concentrates on these threats and it ignores the severe consequences of any nuclear or WMD attack upon Britain.

The NSS will be produced every five years with the next one due in 2015. With the 2010 NSS complete the National Security Council went to work upon the Strategic Defence and Security Review (SDSR) which would address the priorities identified in the NSS and detail the force structures and resourcing of the British military required.

Strategic Defence and Security Review (SDSR)

The 2010 Strategic Defence and Security Review was published in October, in tandem with its hierarchical and directive NSS document. One could surmise that both documents were produced together, in parallel, perhaps and not in sequence as one would expect. Either way little or no time was allowed for the NSS to be fully digested before embarking upon the subordinate SDSR and laying out the structures for Britain's military and defense.

The SDSR, like the NSS, was signed by both the coalition government Prime Minister and Deputy Prime Minister. The SDSR does give much more clarity than the NSS, regarding Britain's independent nuclear deterrent, dedicating an entire chapter (Chapter 3) in this 75 page document. The SDSR clearly states there is "a need for a

² Ibid., 34.

minimum effective nuclear deterrent as the ultimate means to deter the most extreme threats."³ Yet it recognizes that "no state currently has both the intent and capability to threaten the independence or integrity of the UK. We cannot dismiss the possibility that a major direct nuclear threat to the UK might re-emerge."⁴

The SDSR maintains:

The UK remains committed to the long term goal of a world without nuclear weapons. We will continue to work to control proliferation and to make progress on multilateral disarmament, to build trust and confidence between nuclear and non-nuclear weapon states, and to take tangible steps towards a safer and more stable world where countries with nuclear weapons feel able to relinquish them.⁵

Furthermore it gives the assurance:

The UK will not use or threaten to use nuclear weapons against non-nuclear weapon states party to the Non Proliferation Treaty (NPT). In giving this assurance we emphasize the need for universal adherence and compliance with the NPT, and note that this assurance would not apply to any state in material breach of those non-proliferation obligations.⁶

The SDSR states that Britain remains committed to the noble goal of multilateral nuclear disarmament and the obligations of the NPT; this will be discussed in more detail later in this thesis. Finally, no non-nuclear weapons state need fear British nuclear weapons, unless they breach the NPT and are developing their own nuclear capability. This is positive and balanced rhetoric from the SDSR towards Britain's deterrent. However when the SDSR moves onto the issues of value for money and resourcing the deterrent, the mood subtly changes.

³ HM Government, *The Strategic Defence and Security Review* (London: HM Stationery Office, 2010), 37.

⁴ *Ibid.*, 37.

⁵ *Ibid.*

⁶ *Ibid.*

Recognizing the 2006 Governmental decision to replace the Submarine Trident missile delivery system, like for like in the 2020s, it acknowledges the differing views of the coalition government when it states that "the renewal of Trident will be scrutinized to ensure value for money. Liberal Democrats will continue to make the case for alternatives."⁷ Furthermore the SDSR identifies the need for deferring the decision to replace the current warhead, ensuring that any deterrent cost remains within a 25 billion pound budget and reduce the number of operational warheads from fewer than 160 to no more than 120. The SDSR also proposes extending the life of the current Vanguard class SSBN deterrent to the mid 2020s and delaying the final decision on any replacement system until 2016.

Certainly the SDSR recognizes that a similar SSBN deterrent replacement is the better option; however, at the insistence of the Liberal Democrats and because of the current fiscal constraints, it keeps the alternative options open and plays for time by committing to no decision or monies until 2016, which is after the next general election.

On 18 May 2011, Defence Secretary Liam Fox announced that the 'Main Gate' decision to build any SSBN replacement would not be taken until 2016. Furthermore he stated that: "In order to assist the Liberal Democrats in making the case for alternatives there would be the initiation of a study to review the costs, feasibility and credibility of alternative systems and postures. The study would be led by Cabinet Office officials overseen by the Minister for the Armed Forces (Nick Harvey, a Liberal Democrat)."⁸

⁷ Ibid., 38.

⁸ Eurasia Review. "A Worrying Development for Trident - Analysis,"

<http://www.eurasiareview.com/26052011-a-worrying-development-for-trident-analysis/> (accessed November 16, 2011).

With the decision to delay any final decision on replacing Trident until 2016, clearly the next political election of 2015 is brought into play and replacing the nuclear deterrent becomes an election campaign issue. The Liberal Democrats remain firmly against replacing the deterrent, and following the SDSR announcement of the 2016 decision, Ross Scott, the Liberal Democrat Party President, e-mailed party members arguing that the delay was a "significant victory" and that

The Coalition Government announced there will be no final decision on the like-for-like replacement of Trident during this parliament. So Trident will not be renewed this parliament - not on a Liberal Democrat watch. Let us be clear, this is a significant victory for Liberal Democrat campaigners, and a fantastic example of what our ministers can and do achieve in government.⁹

In summary, the NSS and certainly the SDSR do underpin the idea of replacing and maintaining the UK's independent nuclear deterrent. However, with the final decision to procure any replacement system not to be made until 2016, clearly a lot could change. The 2015 general election will, if the Liberal Democrats get their way, put the issue of replacing Trident firmly on the election manifest agenda, and should either of Conservative and Labour parties fail to achieve an outright majority, the support of the Liberal Democrats in forming a government might just depend upon the very issue of whether or not to replace Trident.

⁹ Ibid.

CHAPTER 2: THE NUCLEAR POWERS

In order to evaluate and further understand the relevance of the UK's nuclear deterrent today and for tomorrow, it is necessary to consider the make-up of Britain's nuclear deterrent, especially in comparison to the other global nuclear powers.

Great Britain

In October 1952 Britain was the third nation (after the United States and USSR) to independently test a nuclear weapon when it dropped a nuclear bomb from a Royal Air Force (RAF) Valiant Bomber in the Montebello Islands (Operation Hurricane)¹. Nuclear free fall bombs would become Britain's only nuclear deterrent system until 1968 and, even after the introduction of a SLBM system, free fall nuclear bombs would remain in service until 1998.²

In 1962 Britain and America signed the Nassau Agreement³ in which the U.S. agreed to provide the submarine launched Polaris missile system to the UK. This led to the development of four Polaris Missile SSBNs. The first of class, HMS RESOLUTION, undertook Britain's first SLBM deterrent patrol on 15 June 1968.

In 1982 Britain agreed to replace Polaris with the US Trident D5 SLBM system and in between 1994 and 1996 the Trident armed VANGUARD class submarines replaced the now ageing Polaris armed RESOLUTION Class submarine. The Polaris era

¹ United Kingdom National Archive, "Operation Hurricane," http://www.nationalarchives.gov.uk/films/1951to1964/filmpage_oper_hurr.htm (accessed November 30, 2011).

² Ministry of Defence "The History of the UK's Nuclear Weapons Programme," <http://www.mod.uk/DefenceInternet/AboutDefence/CorporatePublications/PolicyStrategyandPlanning/HeFutureOfTheUnitedKingdomsNuclearDeterrentDefenceWhitePaper2006cm6994.htm> (accessed November 30, 2011).

³ Ibid.

ended on 28 August 1996.⁴ The last air drop nuclear bomb was withdrawn from service in 1998 and Britain became the only nation of the original five nuclear powers to rely upon a single weapon and delivery system, namely submarine launched Trident.

The Trident D5 Inter Continental Ballistic Missile (ICBM) system is carried in four VANGUARD Class strategic nuclear missile submarines (SSBN). At any time, one of these submarines is on patrol at sea and at high readiness to fire should the order come from the Prime Minister.

Hiding in the vast expanse of the Atlantic Ocean, the patrolling SSBN maintains consistent listening communications, and because of its exceptional stealth and noise hygiene design, remains completely covert and undetectable. With four submarines in the program, this allows for one SSBN to be on a patrol of typically 10 weeks, one to be returning from patrol and undergoing light maintenance, a third to be preparing and training to go on patrol. The fourth SSBN will be out of the patrol cycle and undergoing deep maintenance or a refit which can take up to 18 months or more given the stringent but necessary nuclear propulsion requirements.

These four Vanguard Class SSBNs provide Britain's continuous at sea deterrence (CASD). Each submarine is armed with up to 16 Trident D5 Missiles and although the nuclear war head arrangement on top of these missiles is understandably highly classified information, the 1998 UK Strategic Defence Review stated that there will never be more than 46 warheads deployed on a patrolling submarine at any one time. Under the openness of the Non Proliferation Treaty, Britain declares the smallest arsenal amongst the five initial nuclear powers with less than 160 warheads.

⁴ Ibid.

On 11 May 2011, British Defence Secretary, Dr Liam Fox, announced that the early phase of designing the submarine (known as SUCCESSOR) that will replace the VANGUARD Class submarines would commence. The Ministry of Defence (MOD) announced:

The approval of this early phase of design - known as Initial Gate - ensures that while the main build decision for the submarines will not be taken until 2016, more detailed design work will be undertaken and long-lead items ordered so that the first submarine is delivered in 2023.⁵

The MOD further discussed:

The Coalition Government Agreement reflected the desire of the Liberal Democrats to continue to make the case for alternatives. That is why the Defense Secretary has also announced the initiation of a study to be undertaken by the Cabinet Office and overseen by the Minister of State for the Armed Forces to review the costs, feasibility and credibility of alternative systems.⁶

This first statement provides some welcome news insofar that an exploratory procurement programme for the replacement of Britain's SSBN deterrent is now underway, albeit only at a very early stage of design.

The final and crucially expensive decision to commit, known as 'Main Gate', will not be taken until 2016. From the second statement above, it is clear that the Liberal Democrats within the Coalition Government remain opposed to an outright commitment to replacing Britain's SSBN Nuclear Deterrent. The next general election will be held, at the latest, in 2015. So the final decision to commit to both a nuclear deterrent and an SSBN based system will not be taken within the life of this Government. As welcome as the announcement of 18 May 2011 is, the future of Britain's nuclear deterrent is far from

⁵ Ministry of Defence, "Plans for Successor Nuclear Deterrent Submarine Announced," Defence News, <http://www.mod.uk/DefenceInternet/DefenceNews/DefencePolicyAndBusiness/Plans> (accessed 30 October 2011).

⁶ Ibid.

clear; the Main Gate decision in 2016 is still not certain either way, especially given the current lack of money.

United States of America

On Monday, 3 May 2010, U.S. Secretary of State, Hilary Clinton, addressed the United Nations on nuclear security and in the interest of global transparency she openly stated that the U.S. has 5113 nuclear warheads. Secretary Clinton went on to contrast this figure with the U.S. warhead peak number of 31, 255 held in 1967 during the Cold War.⁷

Unsurprisingly the United States nuclear arsenal dwarfs the UK's inventory of 160 warheads. Also the U.S. operates multiple delivery systems vice the UK's sole submarine launched system. The U.S. is able to deliver nuclear warheads using submarine launched ICBMs, short, medium and long-range land-based missile systems, and air launched tactical missiles and bombs. This collection of air, land and sea-based systems, is known as the U.S. nuclear 'triad'.

Whether or not the U.S. military keeps this widespread and costly nuclear weapons inventory remains to be seen. Facing cuts of \$500 billion to its military budget over the next 10 years and the possibility that this could rapidly increase to \$1.1 trillion if budget sequestration is invoked in 2012, the U.S. Department of Defence (DoD) needs to cut some capabilities from its inventory in order to balance the budget. As to what will go and when, it is reasonable to assume that some of the older land-based missile systems within the U.S. nuclear triad will not be renewed. As the U.S. draws down its nuclear warhead stockpile in line with the New START agreement, only the more modern and

⁷ Washinton Post, Obama Administration discloses size of U.S. Nuclear Arsenal. 4 May 2010, <http://www.washingtonpost.com/wp-dyn/content/article/2010/05/03/AR2010050302089.html> (accessed November 16, 2011).

capable systems will remain. The DoD can expect an updated National Security Strategy to be signed by the President in 2012 and a new National Military Strategy will likely follow. Of course, a change in the administrations in 2012 could have further consequences. What is clear today is that no one in Washington is talking of removing the U.S. nuclear capability outright; it might be reduced and some of the older delivery systems retired and not replaced, however the United States will continue to possess a credible and dual or triad nuclear deterrent system well into the middle of this century and beyond.

Running parallel to the U.S. nuclear weapon system is its capability in strategic missile defense. This multi-system anti-missile capability employs space, air, land and naval systems to alert, track and destroy any medium or long range missile launched at the U.S. or regional partners and allies. Already in place to defend the continental United States the proposed expansion to defend Western Europe, primarily against rogue states such as Iran, has faced stiff opposition from Russia. U.S. plans to base radar missile detection facilities in Poland and the Czech Republic have met strong opposition from Russia who, despite U.S. assurances that their defense focus is on states like Iran, see this system as effectively negating their own nuclear weapons and degrading their military leverage with their own continent. In the interest of regional diplomacy and also given the severe DoD fiscal constraints, the U.S. plans for extending missile defense into Eastern Europe are currently on hold, and Europe and Britain have no active defense mechanism against a nuclear missile threat other than that of the traditional deterrence.

Russia

The Soviet Union successfully tested its first nuclear weapon in 1949 thus becoming the second nuclear weapons nation, after the U.S. After the 1991 collapse of the Soviet Union, the majority of Soviet nuclear weapons were within the national borders of Russia, and those outside Russia, located within the independent former Soviet nations, remained under Russian control. At its peak in 1986, the Soviet Union had approximately 45,000 nuclear warheads. The 1991 Strategic Arms Reduction Treaty (START) and the 2002 Strategic Offensive Reduction Treaty (SORT) required Russia to reduce its nuclear warheads to between 1700 and 2200 by the end of 2012⁸. By October 2010 the Russian stockpile of strategic nuclear warheads was estimated at approximately 2660 warheads,⁹ yet this figure does not take into account the exact number of smaller tactical nuclear warheads within the Russian inventory.

Furthermore, on 8 April 2010, U.S. President Obama and Russian President Medvedev signed the New START treaty in Prague. New START requires that both the United States and Russia reduce their aggregate to 1550 warheads each.¹⁰ Both nations are required to achieve this number by 2017.

Like the United States, Russia is able to deliver nuclear warheads using land, submarine and air launched weapon systems too. Today, it is believed that Russia has tightened its accounting of nuclear stockpiles, especially those from the former Soviet arsenal; however, between the early 1990s and mid 2000s, the accountability of former

⁸ Nuclear Threat Initiative, Russia Country Profile, <http://www.nti.org/country-profiles/russia/> (accessed December 4, 2011).

⁹ Ibid.

¹⁰ The White House, "New START Protocol," <http://www.whitehouse.gov/blog/2010/04/08/new-start-treaty-and-protocol#section1> (accessed December 5, 2011).

Soviet weapons grade nuclear material has been brought into question. In March 2010 two Armenians, a businessman and a physicist were caught by Russian authorities attempting to smuggle highly enriched uranium into Georgia. It was believed that this material had been stolen some years previously, and independent U.S. tests revealed that the material was 90 percent enriched and suitable for a small tactical weapon.¹¹

The current Russian nuclear arsenal might well be in safe hands; however, the exact location of all the former Soviet weapons grade nuclear material and its precise quantities are poorly catalogued and exact details are simply not known and will probably never be known!

France

France became a nuclear weapons state in 1960 and followed Britain's example of having only two delivery systems, a CASD SSBN launched ICBM and a smaller tactical air launched weapon. However, unlike Britain, France has not only maintained both systems today, but has already procured its new class of SSBNs, with the first submarine (Le Terrible) entering service in 2010. President Sarkozy has announced that by cutting some of its air launched nuclear weapons, France would cut its nuclear arsenal to around 290 warheads.¹² A full NATO member and a permanent member of the UN Security Council, France like Britain, remains a relatively small nuclear weapons state.

¹¹ "Nuclear bomb material found for sale on Georgian black market," *Guardian* 7 November 2010, <http://www.guardian.co.uk/world/2010/nov/07/nuclear-material-black-market> (accessed December 1, 2011).

¹² Nuclear Threat Initiative, France Country Profile, <http://www.nti.org/country-profiles/france/> (accessed December 4, 2011)

China

Achieving nuclear weapons status in 1955, China continues to guard the exact number of nuclear warheads that it holds within its arsenal. In terms of delivering these warheads, China has between 55 and 65 land silo based ICBMs and numerous short range mobile missile systems.¹³ The operational status of China's single and outdated SSBN is assessed as "questionable"¹⁴ however China, like France, has developed a new class of SSBN, and the first submarine of this JIN-class is now at sea, but the full integration of the SLBM system has yet to be achieved.¹⁵ It is also worth noting that China was the first nation to state that it would not use nuclear weapons first (No First Use - NFU) and insists that its nuclear weapons are purely for deterrence and then for retaliation if attacked first. China's NFU pedigree and assurance is laudable; however, the lack of transparency as to the exact number of Chinese nuclear warheads remains a concern.

India

India is not a signatory to the Non Proliferation Treaty (NPT) and remains highly critical of this treaty citing that it allows the five initial nuclear weapons states, above, to hold nuclear weapons but not other nations. Starting an atomic weapons programme in 1968 it publically declared nuclear weapon status in 1998.

Today India is believed to hold between 60 and 80 nuclear devices which rely predominantly on aircraft delivery, though work is progressing for a medium range

¹³ U.S. Department of Defence, Military and Security Developments involving the People's Republic of China 2011: Annual Report to Congress, (Washington DC: DoD, 2011), 34.

¹⁴ Ibid.

¹⁵ Ibid.

missile delivery system, known as the Agni 2, which has a range of 2000 miles.¹⁶ Central to India's nuclear weapons strategy is the perceived threat posed by agitating western neighbor Pakistan and the potential for future friction with its northern neighbor China, both of which are also nuclear weapons states.

Pakistan

Pakistan embarked upon its nuclear weapons programme in 1970, two years after India. Also a non-signatory of the NPT, Pakistan was not prepared to stand and watch India, its closest adversary, achieve nuclear weapons status without having a similar system for self defense. Supported by Chinese expertise, Pakistan's nuclear capability is not fully understood; however, the International Panel on Fissile Materials (IPFM) estimates that today Pakistan has sufficient material to assemble between 40 and 100 weapons.¹⁷

India and Pakistan led the way in ignoring the NPT, by insisting that if the original five nuclear nations could have atomic weapons then who were they to tell other nations they could not; especially if those other nations felt in grave danger due to hostile neighbors. The attraction of a nuclear capability is easy to understand, such a weapon can easily compensate for any paucity in conventional forces and a nuclear capability acts as a discreet yet ubiquitous method of regional influence. The following are the other nations which are believed to have an undeclared nuclear weapons capability or are actively pursuing one:

¹⁶ Nuclear Threat Initiative, India Country Profile, <http://www.nti.org/country-profiles/india/> (accessed December 5, 2011)

¹⁷ International Panel on Fissile Materials, "Fissile Materials and Nuclear Weapons," http://www.fissilematerials.org/ipfm/pages_us_en/fissile/fissile/fissile.php (accessed December 6, 2011).

Iran

Iran remains committed to pursuing nuclear weapons. In September 2011, the International Atomic Energy Agency (IAEA) published a report regarding the NPT safeguards and United Nations Security Council resolutions with respect to the Iranian nuclear weapons quest. This report states that, "contrary to the relevant resolutions of the Board of Governors and the Security Council, Iran has not suspended its enrichment related activities."¹⁸

The IAEA report goes on to state that, "the Agency is increasingly concerned about the possible existence in Iran of past or current undisclosed nuclear related activities involving military related organizations, including activities related to the development of a nuclear payload for a missile, about which the Agency continues to receive information."¹⁹ Iran is clearly hiding some of its nuclear facilities away from the United Nations IAEA inspectors.

Peaceful nuclear electrical generation facilities and processes have nothing to fear from an IAEA visit; in fact the IAEA actively promotes nuclear power for electrical generation. Nuclear enrichment facilities that attempt to develop weapons grade nuclear materials are the real concern of the IAEA, and such establishments are in contravention of the NPT. IAEA assesses that Iran is hiding such a facility and the IAEA report of September 2011 concludes:

While the Agency continues to conduct verification activities under Iran's Safeguard Agreement, Iran is not implementing a number of its obligations, including suspension of enrichment related activities; and addressing the Agency's

¹⁸ Board of Governors, Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions in the Islamic Republic of Iran (Vienna, Austria: IAEA publications, 2 September 2011), 2.

¹⁹ Ibid., 7.

concerns about possible military dimensions to Iran's nuclear programme. The Agency is unable to provide credible assurance about the absence of undeclared nuclear material and activities in Iran, and therefore to conclude that all nuclear material in Iran is in peaceful activities.²⁰

North Korea

The Democratic People's Republic of Korea (DPRK) withdrew from the NPT in 2003 and then subsequently tested nuclear explosive devices in 2006 and 2009. Arguably the most restricted and secret society in the world, the DPRK nevertheless declared that it had roughly 38kg of weapons grade plutonium in May 2008.²¹ The exact details of weapons delivery systems are not known, though the DPRK does have credible medium range ballistic missile and simple air-launched weapons are always an option.

Completely isolated from the rest of the world, this nervous nation remains on a constant war footing with its South Korean neighbor and shows a complete lack of trust with any other nation, including China to the north. How North Korea and its nuclear weapon programme will fair under the recently assumed leadership of Kim Jong Un, remains to be seen.

Israel

Israel remains tight lipped with regards to any details surrounding its nuclear weapons capability with Tel Aviv maintaining a policy of 'Nuclear Ambiguity' with regards to nuclear weapons, neither confirming nor denying that they exist within the Israeli military order of battle. It is widely believed that Israel's first Prime Minister,

²⁰ Ibid., 9.

²¹ Nuclear Threat Initiative, North Korea Country Profile, <http://www.nti.org/country-profiles/north-korea/> (accessed December 5, 2011).

David Ben Gurion, established a secret nuclear weapons development programme with the assistance of French technical expertise during the 1950s. Israeli nuclear weapons development remained a closely guarded secret until a former Israeli nuclear technician, Mordechai Vanunu, disclosed the nature of his work at the Dimona nuclear plant in 1986 to the London Times Newspaper.²² During the 1991 Gulf War, Israeli Prime Minister Yitzhak Shamir warned Iraq when he stated that, "all those who threaten us should know that whoever dares strike Israel will be struck hard and in the most severe way," adding that "...Israel has a very strong deterrent capability."²³

Israel has refused to sign the Nuclear Non-Proliferation Treaty (NPT) and maintains that it cannot accept the terms of the NPT while other Middle Eastern nations maintain or develop weapons of mass destruction. In the unclassified and public domain the size and nature of Israel's nuclear arsenal is unknown, however all indications are that it does exist and is maintained at a readiness to be use should Israel be attacked by a similar weapon.

Other Nations

Since the end of the Cold War, the proliferation of nuclear weapons technology and materials have become more of an issue and concern. With the collapse of the Soviet Union came reports that former Soviet nuclear knowledge and even weapons grade material had found its way onto the black market. Between 1993 and 2005 the IAEA

²² Nuclear Threat Initiative, Israel Country Profile, <http://www.nti.org/country-profiles/israel/> (accessed December 6, 2011).

²³ Ibid.

reported 220 confirmed cases of nuclear smuggling and 18 of these cases involved the smuggling of highly enriched and weapons grade uranium material.²⁴ In 1997, former Russian national security adviser, Alexander Lebed, warned that, "up to 100 small suitcase sized nuclear weapons within the Russian arsenal were still unaccounted for and another 250 such weapons were no longer under the control of Moscow."²⁵ IAEA attempts to verify Lebed's statement and subsequently locate any of these weapons are not openly documented. The accountability of Russian nuclear materials, since the collapse of the Soviet Union, appears less than certain. Today, the market for Russian, Pakistani and Chinese nuclear weapons expertise is strong. Emerging nations recognize nuclear weapons as a serious and credible way to apply leverage in an uncertain world. Few, if any, nations can compete with the global conventional military dominance of the United States. So the option to develop and own a credible nuclear weapon guarantees a fast-track to military, regional and perhaps even global leverage, particularly against the United States and its allies such as Britain. As parts of the world, such as the Middle East and North Africa, currently look less stable, the option to own a basic nuclear weapon gives a nation considerable regional influence, if for no other reason than to guarantee its own borders against unstable or potentially hostile neighbors.

Post 2011 Arab Spring, one can only guess how the future relationships and power politics will play out between Egypt and Israel, Libya, Algeria, Tunisia and Syria. Today the Arab Spring nations do not have, or necessarily covet, nuclear weapons; however, with legitimate nuclear electric power plants within many of these nations, the

²⁴ J. M. Siracusa, *Nuclear Weapons: A Short Introduction* (Oxford, UK: Oxford University Press, 2008), 121.

²⁵ *Ibid.*

possibility that future regimes will develop nuclear weapons and start an atomic arms race right on Europe's doorstep cannot be ruled out.

In today's rapidly changing world the sentiments of author Mark Steyn strikes a chord when he states:

North Korea is assisting the Iranians with their delivery systems, and the Iranians are promising to share their nukes with Sudan. Far from Obama's plea for a world without nuclear weapons, we face the prospect of a planet in which the wealthiest societies in history from Norway to New Zealand are incapable of defending their borders, while impoverished Third World basket cases go nuclear.²⁶

For those nations who through either desire or desperation do not abide by today's nuclear treaties, then acquiring a simple weapon and delivery method remains a credible option. Even the emerging regional powers of Brazil and Turkey, who today play by the nuclear non proliferation treaties, have within their borders the legitimate nuclear power infrastructures for electrical energy that could, if so desired, provide a nuclear weapons capability should the need occur.

Enforcing such nuclear treaties is key to preventing the proliferation of nuclear weapons, and as a nuclear nation and signature to such treaties; Britain has a role to play. Walking away from nuclear weapons and therefore lacking the means to enforce adherence to such treaties could send the wrong message and sideline Britain's efforts in global and regional security.

The following chapter will briefly consider some of the more relevant treaties for which Britain is a signature, and then the subsequent chapter will illustrate why Britain has both a global and regional role within nuclear weapons security.

²⁶ M. Steyn, *After America: Get Ready for Armageddon* (Washington DC: Regnery, 2011), 18-19.

CHAPTER 3: NUCLEAR WEAPONS TREATIES

Since the development of atomic weapons there have been many international treaties, conferences and talks aimed at limiting warhead stock piles and the proliferation of nuclear weapons. For the purpose of this paper the New Strategic Arms Reduction Treaty (New START), The Non-Proliferation Treaty (NPT) and the Comprehensive Nuclear Test Ban Treaty (CTBT) all need to be considered.

New START - 2010

On April 8, 2010 U.S. President Obama and Russian President Medvedev signed the New START agreement, the most significant nuclear weapons treaty since the NPT.

Signing the New START at Prague, President Obama stated:

So today I state clearly and with conviction America's commitment to seek the peace and security of a world without nuclear weapons. I'm not naïve. This goal will not be reached quickly - perhaps not in my lifetime. It will take patience and persistence. But now we, too, must ignore the voices who tell us that the world cannot change. We have to insist, Yes we can.¹

New START was certainly a huge step forward in reducing both the U.S. and Russian nuclear weapons stocks. This New START treaty was an update from the original START treaty that was agreed in 1991. Reducing the number of Russian and U.S. warheads to 1550 each by 2017 and curtailing the maximum number of strategic launcher platforms to 700 per nation, New START will reduce U.S. and Russian nuclear arsenals and capabilities to a low level not seen since the 1950s. New START is

¹ Cirinicione, J, "The Nuclear Pivot: Change and Continuity in American Nuclear Policy," *RUSI Journal* Vol 155 No 3 (2010), 36.

primarily focused upon U.S. and Russian nuclear stockpiles, yet it illustrates, from the limits above, that Britain is well within the upper number of permissible warheads with the modest British stockpile of only 120 and only four submarine launching platforms.

Former U.S. Secretary of Defense, William Perry stated, shortly after the signing of New START:

To adequately deal with North Korea's and Iran's nuclear aspirations, we need full cooperation of other nations, particularly Russia and China. This treaty will not guarantee that, but this treaty is moving us in that direction of a much better understanding of the relationship with Russia on these vital matters, it gives a clear signal to the world that the United States is serious about carrying out its responsibilities under the Nuclear Nonproliferation Treaty. This will be welcomed as a positive step by all other members of the NPT.²

The Nuclear Non-Proliferation Treaty (NPT)

The Nuclear Non-Proliferation Treaty (NPT) was originally signed in 1970 as the overarching international nuclear power treaty. The key points of the NPT are:

1. Non-Nuclear Weapons Nations agree not to acquire or seek to acquire nuclear weapons and accept international verification from the International Atomic Energy Agency (IAEA).
2. The Five Nuclear Weapons States, as above, actively pursue the goals of nuclear weapons reductions and eventually disarmament.
3. All nations have the right to exploit nuclear power for peaceful purpose, such as nuclear electrical generation.

Today the NPT has 189 nation states signatories; the key non-signatories are India, Israel and Pakistan; nations who after 1970, had the intent to pursue their own nuclear ambition and avoid the first and crucial point of the NPT above.³

² Ibid., 38.

³ United Nations, 2010 Review of the Treaty on the Non-Proliferation of Nuclear Weapons (New York: UN, 2010), 29.

The NPT is reviewed every five years and the most recent review in May 2010 was held in Washington DC. This latest review was only a month after the New START treaty between Russia and the United States, and expectations were very high. The review successfully reaffirmed the NPT as the cornerstone nuclear weapons treaty. All 189 signatory states reaffirmed their commitments to preventing the proliferation of nuclear weapons grade materials. Post the SDSR, Britain declared a reduced maximum of 120 nuclear warheads.

At the conclusion of this recent and successful NPT review the British Foreign Secretary, William Hague, said:

It marks the first time in ten years that the international community has been able to come together to agree on the collective efforts that will be required. We now have, for the first time, a clear action plan to strengthen the Treaty. This conference was an important milestone in our long-term vision for a world without nuclear weapons. Now we have a map to help us move forward.⁴

Clearly this statement from the current, and Conservative, Foreign Secretary is indicative that Britain is very much in favor of achieving a world without nuclear weapons in the long term. Recent cuts to British nuclear stockpiles make it the smallest nuclear arsenal amongst the original five nuclear powers and put the substance behind the Foreign Secretary's rhetoric.

The Nuclear Comprehensive Test Ban Treaty (CTBT)

Between 1945 and 1996, over 2000 nuclear explosions have been carried out by way of testing and developing nuclear weapons. Of which the estimated breakdown is United States (1000 plus tests), Russia (700 plus tests), France (200 plus) and Britain and

⁴ The Nuclear Non-Proliferation Treaty, Foreign and Commonwealth Office. <http://www.fco.gov.uk/en/global-issues/counter-proliferation/nuclear-2010/nuclear-overview/> (accessed December 16, 2011).

China (45 each).⁵ In 1996 a moratorium on nuclear weapons testing was agreed and since then only three nations have tested nuclear devices, namely India and Pakistan in 1998 and North Korea in 2006 and 2009. If and when the CTBT comes into legal force, it will prohibit states from conducting any nuclear explosions, anywhere, in order to test and develop nuclear weapons systems.

The CTBT is written and monitored by the international and independent CTBT Organization, founded in 1996 and based in Vienna. The CTBT has yet to become law. Today 182 countries have signed the Treaty, but of those, only 156 have ratified it, including the three nuclear weapons states of Russia, France and Britain. The CTBT requires 44 specific nuclear technology states to sign and ratify the treaty before it can become law. The eight nations which still need to ratify are: the United States, China, Egypt, India, Iran, Israel, Pakistan and North Korea. Until these nations sign and ratify, the CTBT will not become fully recognized within international law. Indications are the United States might well be in a position to ratify the CTBT within 2012; however, the likelihood that India, Pakistan and North Korea will ratify the CTBT and give up their options to develop and test further nuclear weapons remains unknown. Despite the noblest of intentions, the CTBT currently lacks real leverage in stopping the development of future nuclear weapons.

Britain is a signatory and in full compliance with all of the above agreements. Should the UK replace its submarine/Trident missile capability, its modest stock of warheads is unlikely to increase and perhaps even decrease further. There is no reason why Britain cannot maintain and replace its nuclear deterrent and still remain utterly

⁵ Comprehensive Test Ban Treaty Organization. Preparatory Commission. <http://www.ctbto.org/specials/who-we-are/> (accessed December 16, 2011).

compliant with these important international treaties. It is noteworthy that should the UK decide not to replace its nuclear deterrent capability, unilaterally disarming, it could not, at a later date, reverse such a decision and rearm with a nuclear weapon without breaking the treaties above. To follow such a route would mean that Britain would transition from a nuclear nation to being a non-nuclear nation and then, controversially, return to being a nuclear nation; this final transition would put Britain at odds with the NPT and in the same bracket as say Iran and North Korea.

When one considers the New START, the NPT and the CTBT there is some cause for optimism amongst the big five nuclear nations and the likelihood that they will reduce and perhaps even eradicate, in the long term, their nuclear weapons. Yet, the glaring consistency is the repeated failure of those more recent nuclear weapons nations to conform to any disarmament and or non proliferation ideology. India, Iran, Israel, North Korea and Pakistan are all actively pursuing and developing their own nuclear weapons systems. The next chapter will place the threats these nations pose into context.

CHAPTER 4: NUCLEAR AND WMD THREATS IN THE 21st CENTURY

Iran: Clear and Present Danger

Either by design or by sheer good luck, Iran has timed its final push for nuclear weapons to perfection. As the western powers, led by the United States, wearily withdraw their militaries from Iraq and prepare to withdraw them from Afghanistan, there is little political appetite for further military confrontation or conflict in the Middle East. Economic sanctions imposed by the United Nations, the United States and the European Union have yet to show any significant effect upon influencing the Iranian leadership to stop their quest for a nuclear weapon. A pre-emptive military strike upon the Iranian nuclear research and development facilities would, of course, significantly delay or even destroy any hopes of an Iranian nuclear weapon; however, such an action would almost certainly lead to localized or even regional conventional conflict with far reaching consequences, and with fresh memories of Iraq and ongoing commitments in Afghanistan, there is little appetite to use military force. There is also a genuine fear that any preemptive military strike against Iran's nuclear facilities would only galvanize support within Iran behind what is currently an unpopular regime.

Nevertheless, the Iranian quest for nuclear weapons is a key concern to world security and not just to the Arab states in the region. The U.S. National Intelligence Council (NIC) shares this concern when it states that "Iran's growing nuclear capabilities are already partly responsible for the surge in interest in nuclear energy in the Middle East, fuelling concern about a potential for a nuclear arms race. Turkey, United Arab Emirates, Bahrain, Saudi Arabia and Egypt have expressed interest in building new

nuclear power facilities."¹ The NIC goes on to further state that "the continued spread of nuclear capabilities in the greater Middle East, where several states will be facing succession challenges over the next 20 years, also will raise new concerns over the capacity of weak states to maintain control over their nuclear technologies and arsenals."² The NIC concludes its 2025 assessment over Iran by stating "enough countries might decide to seek nuclear weapons capabilities in reaction to an Iranian capability that countries beyond the region would begin pursuing their own nuclear weapons programs."³

As the Iranian regime seeks to hold on to power at all costs, it employs its Revolutionary Guards to keep an iron grip on its own population and it sponsors terrorist organizations abroad to spread influence overseas. Achieving a nuclear weapon would give the Iranian regime unrivalled leverage in the Arabian Gulf region.

One can sense the unease that Gulf Nations will feel with a nuclear Iran. Possible outcomes could be that previously western sympathetic Gulf nations change their allegiances to support a nuclear Iran, fearful of the consequences of not doing so. Equally, fiscally rich Gulf nations such as Saudi Arabia could opt to buy their own off-the-shelf nuclear weapon capability. The links between Saudi Arabia and Pakistan are well established and the latter country is not adverse to exporting its nuclear weapons expertise for the right price.

The international community has applied severe economic sanctions and oil import embargos upon Iran. Israel and the United States reaffirm that the option of a pre-

¹ National Intelligence Council, *Global Trends 2025: A Transformed World* (Washington DC: US Government Printing Office, 2008), 62.

² *Ibid.*, 63.

³ *Ibid.*

emptive military strike against Iran's nuclear infrastructure is still on the table. Nevertheless Iran continues to press ahead with developing its military nuclear capability. The likelihood that the Iranian regime would actually use or perhaps export its nuclear weaponry is very difficult to gauge given the illogical and utterly irrational mindset and recent rhetoric of the Iranian regime. One often cited example was the quote given by Iran's President in October 2006 that "The State of Israel was a disgraceful blot that should be wiped off the face of the earth."⁴ Of course any nuclear attack by Iran upon Israel would be met with a severe and likely nuclear retaliation by Israel, the United States or even Britain. Although optimists point out that Iran is unlikely to accept such an eventuality and is therefore unlikely to strike first, it is worth remembering that President Ahmadinejad and the Iranian religious Mullah leadership are both internally and externally in desperate times and therefore unpredictable at best. Thomas C. Reed makes the point that: "Mr Ahmadinejad is but a product of the Revolutionary Guard; he is as unbalanced as the rest of the mullahs."⁵

Reed goes on to remind us that during the Iraq and Iran War, Iranian boys, some as young as twelve, were sent to their deaths in their tens of thousands whilst on suicide charges against Iraqi positions armed with only a rifle and a plastic key. The latter unusual item was bought by the Iranian leadership as a reminder that dying for Iran, as a martyr, would guarantee entrance to a better place in the after-life. A leadership that still extols the virtues of martyrdom is unlikely to have many serious concerns of any nuclear strike consequences in the same way that the West and the Soviet Union understood and

⁴ "Israel should be wiped off the face of the Earth says Iran's President," Guardian Newspaper, 26 October 2005, 1.

⁵ T.C. Reed, *The Nuclear Express: A Political History of the Bomb and its Proliferation* (Minneapolis, MN: Zenith, 2010), 297.

abided by the consequences of Mutually Assured Destruction (MAD) during the Cold War.

But is Iran a specific threat to Britain? Aside from the UK's energy dependency upon the Gulf Region and a significant number of economic and trade links, why should Britain feel threatened by a nuclear Iran? Since the Iranian Islamic Revolution of 1979, the UK and Iran have suffered especially sour relations. The Iranian regime has consistently been outspoken and hostile towards the UK, the United States and Israel. In more recent years, the UK government has become the European leader in speaking out against the Iranian program to achieve nuclear weapons and also Iran's appalling record on human rights. This open criticism by the British government not only angers Iran, but also stands out within Europe where other nations voice indirect criticism via third parties such as NGOs and charities. Today on the British Foreign Office website the official view on Iran is voiced strongly when it states:

The UK has many serious concerns about the Iranian Government's policies: its failure to address serious international concerns about its nuclear programme; its support for terrorism and promotion of regional instability in its region; and its continued denial of the human rights to which its own people aspire and which Iran has made international commitments to protect. The human rights situation in Iran has deteriorated markedly since the disputed elections of June 2009. The UK government continues to speak out internationally about human rights abuses in Iran.⁶

Britain's outspoken leadership in criticizing Iran is both accurate and entirely justifiable, yet, unsurprisingly, attracts strong attention from Iran, especially in light of the recent actions by London's financial institutions to embargo Iranian assets in accordance with UN and IAEA sanctions.

⁶ Foreign and Commonwealth Office, Britain's Relations with Iran, <http://www.fco.gov.uk/en/global-issues/mena/017-iran/> (accessed 24 December 2011).

British and Iranian relations recently came to a head on 29 November 2011, when the Iran authorities stood aside and allowed a state-sponsored riot to storm and wreck the British Embassy in Tehran. Offering no condemnation or apology for this action, Iranian Parliamentary speaker Ali Larijani stated that: "It is natural for the Iranian nation, with students at the top of them, to rise to clean this arrogant dirt from their country's soil. The British government is at fault for the ongoing suffering of the Palestinian people."⁷

Most recently, Iran has conducted naval maneuvers in the Straits of Hormuz and publicly stated that it could, and would, if necessary, shut these international straits to shipping, cutting off international trade in and out of this strategically important region.

In light of recent EU and UN proposals to ramp up sanctions against Iran by imposing oil sanctions on Iranian Oil, the Tehran regime responded that any such action would result in the Iranian military shutting the straits of Hormuz. On 27 December 2011, Iranian Vice President, Mohammad-Reza Rahimi, stated on national television that "If the West impose sanctions on Iran's oil exports, then even one drop of oil cannot flow from the Straits of Hormuz."⁸

As international pressure grows on Iran to cease its nuclear weapons programme, the Iran regime responds by threatening both regional and global securities and economies. This isolated regime continues to progress aggressive and provocative nuclear policies and state sponsored terrorism and once armed with a nuclear weapon the leverage and bargaining might just swing in Iran's favor. Tired from ten years of conflict in Iraq and Afghanistan, the West is now at risk of appeasing Iranian nuclear ambitions if

⁷ Jerusalem Post. "Iran to take further action against Britain" <http://www.jpost.com/VideoArticles/Video/Article.aspx?id=247624> (accessed 2 Jan 2012)

⁸ RT News, "Iran threatens to shut down oil flow in the event of sanctions." <http://rt.com/news/iran-oil-sanctions-threat-783/> (3 January 2012)

it is not prepared to take whatever actions necessary to stop Iran from obtaining a nuclear weapon of mass destruction.

North Korea: Unstable and Unpredictable

In recent years, North Korean nuclear weapons have become the focus for the Six Party Talks between the United States, North Korea, South Korea, China, Japan and Russia. By 2008 some progress was made and North Korea temporarily halted its nuclear weapons program in return for lifting economic sanctions. Regrettably by 2010, these Six Party Talks had broken down and North Korea was back on its path of nuclear development and hostility towards South Korea. Such aggression towards the south was clearly demonstrated in June 2010 when a submarine from the North torpedoed and sank the South Korean frigate CHEONAN killing 50 sailors. Tensions on the Korean Peninsula continue to remain very high.

Further afield, North Korea continued to support and supply terrorist organizations and other nations; in 2010 US Congress was informed that French, Japanese, South Korean and Israeli sources had all confirmed that North Korea had provided arms and training to the terrorist organizations of Hezbollah and Hamas in Lebanon and the Tamil Tigers in Sri Lanka. Furthermore a close liaison between North Korea and the Iranian Revolutionary Guard was identified.⁹

North Korea's illicit nuclear weapons activity is even more worrying; in a recent report to the U.S. Congress the Director of National Intelligence stated:

⁹ Congressional Research Service, North Korea: Back on the Terrorism List? CRS Report for Congress 7-5700 (29 June 2010), 2.

The nuclear test in May 2009 was apparently more successful than its 2006 test and suggests that the North has the capability to produce nuclear weapons with a yield of roughly a couple of kilotons TNT equivalent. In June 2009, North Korea announced that its uranium enrichment work had entered the final stage. North Korea continues to pursue the development; production and deployment of ballistic missiles with increasing range and sophistication and in 2009 launched a Taepo Dong 2 which passed over Japan.¹⁰

Since recommencing its nuclear programme, with vigor in 2009, North Korea has turned its back upon the Six Party Talks. With the death of Kim Jong-il in December 2011, the leadership of Kim Jong Eun seems to follow the normal North Korean path of belligerence. Despite international pressures and offers to cut sanctions and receive foreign aid, North Korea again shunned the international community when it tested-fired an ICBM, capable of carrying nuclear warheads, on 14 April 2012.¹¹ Of more concern, both the U.S. and South Korean Governments are reporting that fresh earthworks at the North Korean Punggye test site indicate an imminent nuclear weapons test.¹²

Whilst the range of current North Korean ballistic weapons cannot yet threaten the UK, the continued involvement of North Korea in supporting and supplying third party nations and terrorist organizations, especially in the Middle East, does have ramifications for British interests and could well impact upon British national security and international trade and interests.

China: Emerging Power with Global Ambition

As the economies of the world continue to suffer post the 2008 financial downturn and the West disengages from Iraq and Afghanistan before downscaling their

¹⁰ Central Intelligence Agency, *Unclassified Report to Congress Relating to Weapons of Mass Destruction*, Director of National Intelligence, (31 December 2009), 5-6.

¹¹ BBC News, "North Korea Rocket Launch," <http://www.bbc.co.uk/news/world-asia-17698438>.

¹² BBC News, "North Korea at Crossroads," <http://www.bbc.co.uk/news/world-asia-17701230>.

militaries; one country alone stands out in bucking this declining trend. In China the economy and the military are booming and they are stepping up a gear, not shifting down.

Over the last ten years, China has enjoyed year upon year of double digit economic growth. Even in the more recent and challenging years, China's economy grew by nine percent in 2011 when most of the world struggled to surpass one percent.¹³ With a population of 1.35 billion, today China accounts for one fifth of the world's population.¹⁴ In order to support its massive population and economy, China needs to compete in the world markets and secure the economic resources and energy supplies needed to satisfy its growing appetite.

Aware that future competition for resources could lead to friction and even conflict, China has modernized and expanded its military in readiness to counter any foreign military access to the South East Asian region. Of particular note, the Chinese development of an Anti-Carrier Battle Group Ballistic Missile able to strike out 3000 km could severely limit the ability of U.S. and British Carrier Strike groups to legitimately operate within eastern international waters. Also, the development of an independent Chinese Satellite Navigation system in tandem with an Advanced Anti Satellite System suggests a tactic to disrupt or destroy the American Global Positioning System (GPS) within the South China Sea or Pacific region. In parallel to these developments, the Chinese regime continues to invest heavily in their maritime and submarine forces.

¹³ BBC Economic Review, "China's Growth slows to 8.9 percent," <http://www.bbc.co.uk/news/business-16588410>

¹⁴ United Nations, "World Population to 2300," <http://www.un.org/esa/population/publications/longrange2/WorldPop2300final.pdf>

As China seeks to expand and exploit its dominance in South East Asia and into the oil rich Middle East, it would appear to be focusing on a strategy of denying area access to outside militaries.

Possessing a large and capable nuclear arsenal China maintains a 'no first strike' policy with regards to its nuclear weapons. Nevertheless, quite how this hungry economy will grow in future years, against the backdrop of growing competition for resources and the potential regional destabilizing effects created by the ever present frictions in Pakistan and India, is uncertain. Moreover, a technologically advanced and numerically strong conventional Chinese military under-pinned with a nuclear arsenal carries considerable influence and muscle. Western nations such as Britain, the United States and France will need to maintain their own nuclear capabilities if their numerically inferior conventional forces are to maintain any credibility and their military strategies and diplomatic foreign policies are to carry any sway with Beijing.

Russia: To Trust or Not to Trust

Today it is difficult to argue that Russia presents a direct or even indirect military threat towards Britain. Post-collapse of the Soviet Union, the efforts of the Russian military have largely been directed towards the internal conflicts of its former Soviet territories. The Chechnyan and Georgian conflicts being two of the recent internal battles. Indeed the Russian invasion of Georgia marked a post-Soviet low point in relations between the West and Russia. The establishment of the NATO - Russia Council (NRC) in 2002 has had only limited success in strengthening relationships between Russia and the Western militaries. It would seem that deep rooted Russian suspicions

hold back any progress and as the 2011 Report to Congress on Russian Security issues points out:

Many in Russia viewed NATO's 1999-2004 enlargement of 10 former Soviet satellite states as a serious affront to Russian power and prestige and Russian leaders continue to oppose the idea of NATO enlargement to former eastern bloc countries. The establishment of US and NATO airbases in Central Asia for operations in Afghanistan after the September 11 2001 terrorist attacks and a United States decision to establish military facilities, albeit non-permanent, in Bulgaria and Romania after NATO's enlargement were viewed by some in Moscow as further evidence of an encirclement of Russia by NATO and the United States.¹⁵

Since the resignation of Boris Yeltsin in 1999, Vladimir Putin and Dmitriy Medvedev have dominated as the Russian leaders, swapping Presidential and Prime Minister positions so as to side step legislation mandating a maximum of two consecutive terms in office for an individual. With Putin's success in the March 2012 election his return to his former position as President, for what will be a third term, questions the openness of the Russian electoral system. The world can expect a continuation of Putin - Medvedev cooperation in ensuring that Russian nationalistic and regional dominance prevails. Already possessing close ties with Iran, Syria and North Korea, Russia seeks to develop its influence from Europe, across the Middle East and into the Asia / Pacific region. The Russian support given in February 2012 to the ruthless and undemocratic Syrian regime of President Assad was in blatant opposition to world opinion and the desires of the United Nations Security Council. The Russo-Syrian cooperation is an example that Russia is only content when its closest neighbors are states which see things the Moscow way, and not the way of the democratic West, especially the way of the United States or Britain.

¹⁵ Jim Nichl, "Russian Political, "Economic and Security Issues and US Interests" Congressional Research Service, 4 November 2011, <http://www.fas.org/sgp/crs/row/RL33407.pdf> (accessed 26 January 2012).

The threat posed to Britain by Russia can best be summed up by the 2009

Parliamentary report to the UK Government which stated:

Although it is hard to conceive of a scenario in which Russia would threaten UK homeland security, Russia threatens the national interests of the UK through its attempts to establish a sphere of influence over the other former Soviet States. It is in the UK's national interest to have stable and democratic and independent states in Eastern Europe as this enhances European security. Russia's behavior risks undermining this and thereby working against our own national interests.¹⁶

As the United States focuses attention toward the Middle and Far East, the European nations of NATO will need to exert their diplomatic and military influence in order to play a greater role in safeguarding Europe. Whilst Russia has yet to threaten militarily Western Europe or Britain, now is not the time to let the guard down, especially as any Russian political reform is nowhere on the horizon and a million Russian troops and the world's largest nuclear arsenal are still at Moscow's beck and call.

India and Pakistan: Uncomfortable Neighbors

Since India and Pakistan gained independence from the UK in August 1947, they have skirmished against each other over their shared and contested border regions, especially in the border region of Kashmir. On four such occasions (1947, 1964, 1977 and 1999) significant small scale conflicts have occurred. Tension and suspicion is now the norm between these two nuclear nations.

In recent years the Hindu nation of India has made much more economic progress becoming an economic, industrial and military power within the Indian Ocean region. Meanwhile political unrest in Muslim Pakistan has caused national upheaval, internal

¹⁶ Houses of Parliament, Commons Select Committee for Defense, "Russia Military Capability and Posture" <http://www.publications.parliament.uk/pa/cm200809/cmselect/cmdfence/276/27605.htm> (accessed 28 January 2012).

frictions and stalled economic prosperity and growth. A long-term strategic ally of the United States, Pakistan has counted upon American support and finance, especially in the last ten years, in return for allowing the United States and NATO access to Afghanistan to fight the Taliban in Operation Enduring Freedom (OEF).

United States and NATO combat operations in Afghanistan are coming to a close in 2014 and Pakistan is left with an uncertain and potentially unstable Afghani neighbor to the north as well as the hostile and suspicious Indian neighbor to the east. Previously strong relations between the United States and Pakistan are now strained over continuous allegations of Pakistani support for the Taliban, and Islamic fighters being sheltered inside Pakistan along the Afghan border.

Pakistan begins to look more vulnerable and unstable and the potential for it to reach out to other Muslim nations, perhaps in return for some of its nuclear weapons knowledge, cannot be ignored. In 1986 the then Pakistani President General Zia, famously expressed that "It is our right to obtain the technology of nuclear weapons, and when we acquire this technology, the Islamic world will possess it with us."¹⁷

Perhaps Pakistan will reach out and provide its nuclear experience or even an atomic weapon to Saudi Arabia as the latter nation becomes uncomfortable within the prospect of a nuclear armed Iran. Certainly, Pakistan and Saudi Arabia have historically close ties and both have much to offer each other with regards to nuclear weapons technology and an abundance of cash, respectively.

Of greater concern is the daily terrorism and increasing lawlessness within Pakistan, especially along its Afghan border. The regime of President Asif Ali Zardari

¹⁷ T.C. Reed, *The Nuclear Express: A Political History of the Bomb and its Proliferation* (Minneapolis, MN: Zenith, 2010), 266.

currently maintains control while the professional and loyal armed forces of Pakistan provide adequate supervision and oversight of Pakistan's nuclear arsenal; however, in this traditionally volatile region any governmental or security breakdown could see nuclear weapons falling into the wrong hands. Given that this region has a strong history of supporting violent extremist organizations, the possibility of Pakistan accidentally providing a nuclear weapon or 'loose nuke' to a terrorist organization cannot be discounted.

Weapons of Mass Destruction

In 2006, British Prime Minister, Tony Blair, stated:

None of the present nuclear weapons states intends to renounce nuclear weapons, in the absence of an agreement to disarm multilaterally, and we cannot be sure that a major nuclear threat to our vital interests will not emerge over the longer term. We also have to face new threats, particularly of regional powers developing nuclear weapons for the first time which present a threat to us. Despite our best efforts the number of states with nuclear weapons continues to grow.¹⁸

The cases discussed within this chapter add contemporary weight to Blair's statement above. There is, today, an equally valid argument that possessing a nuclear deterrent can also deter the use of other weapons of mass destruction (WMD) such as chemical or biological weapons.

In 1991, the then Prime Minister, John Major, secretly warned Saddam Hussein by written letter of "very, very grave consequences" and a "massive response"¹⁹ if Iraq used chemical weapons against British forces during the 1991 Gulf War. John Major did not actually spell out a nuclear response, but coming from a Prime Minister with nuclear

¹⁸ UK Cabinet Office, *The Future of the United Kingdom's Nuclear Deterrent*, (Government White Paper CM 6994 December 2006), 5.

¹⁹ K. Guthe. "Nuclear Weapons Acquisition and Deterrence," *Comparative Strategy* Volume 30, no 5 (November 2011) : 490.

weapons under his control such an option was clearly viable and left little ambiguity for Saddam Hussein. The direct effect of this single and thinly veiled warning is hard to measure; however, Saddam Hussein did not use the chemical weapons at his disposal, in either the Gulf Wars of 1991 or 2003. It should be noted that Saddam Hussein had a track record for using chemical munitions, with horrific consequences, against his own Kurdish population in the town of Halahbja in 1988, killing nearly 5000 civilians and severely injuring many thousands more. With such a horrific pedigree of WMD use against his own people, the likelihood of the Iraqi leader ordering a chemical attack against British and coalition forces in 1991 could not be ignored. In light of this danger, and underpinned by a credible and effective nuclear deterrent, John Major was right to exercise muscle and issue the strongest warning to Iraq.

In concluding this chapter on today's nuclear and WMD threats, the statement given by the Conservative Defence spokesman Dr Julian Lewis in 2005 during the preparation of the UK government's white paper on nuclear weapons, best sums up the deterrence and threat situation of today:

Nuclear weapons are not a deterrent to all forms of aggression, but the nuclear deterrent undoubtedly works against certain forms of aggression, that exist when one country has weapons of mass destruction and another does not. Nuclear weapons are good in the hands of democracies faced with dictatorships in the world; they are bad in the hands of dictators, as are other potential means of waging war. I have no difficulty at all in saying that Britain giving up nuclear weapons would not make a scrap of difference to whether a dictatorship continued to possess them. In those debates for so many years, I challenged again and again those who said that we should give up our nuclear weapons with the simple question: Who are you saying would follow our example? Name a single specific country. Nobody ever did.²⁰

²⁰ International Affairs and Defense Section, Research Paper 06/53: The Future of the British Nuclear Deterrent, (London: House of Commons Library, 3 November 2006) 31-32.

CHAPTER 5: BRITAIN ON THE GLOBAL STAGE

Does Britain Need Nuclear Weapons for its Security?

General Sir Hugh Beach, a vocal and long-term critic of British nuclear weapons, argued that, "Britain cannot claim any direct security benefit from the possession of nuclear weapons. Specifically, it cannot be shown that by virtue of the nuclear arsenal Britain has been able to take any action vis-à-vis another country that it could not otherwise have undertaken."¹

General Beach then cites the 1982 Falkland Conflict as an example where British nuclear weapons had no effect in deterring Argentina from attacking the islands, capturing and then unsuccessfully defending them. Beach is quite right in this example. This relatively small conventional action by Argentina was met by a better and bigger conventional response from Britain.

At no time during April to June 1982 did Britain threaten or even hint at the possible use of nuclear weapons. Such weapons were utterly inappropriate for this type of conflict and to threaten Argentina's purely conventional forces, which abided by the rules of conventional war, would quite rightly have provoked an international backlash against the UK. In a nutshell Britain did not need the nuclear argument to win in the South Atlantic in 1982.

General Beach, however, conveniently ignores the Iraqi Chemical weapons case presented earlier. The evidence stated in the previous chapter illustrates that Saddam Hussein was coerced not to deploy his WMD chemical arsenal by an underlying threat of

¹ General Sir Hugh Beach, "What Price Nuclear Blackmail?" *Disarmament Diplomacy* no 88 (Summer 2008), 11.

nuclear retaliation. Beach, and many contemporary commentators like him, argue that the threat posed by a direct nuclear or WMD weapon against Britain is remote or even nonexistent. However, no matter how small the risk, the consequences are of course utterly devastating should such a small risk emerge in the guise of a rogue state or state sponsored terrorist act.

It would be politically tempting and financially very rewarding for Britain to unilaterally disarm and join the ranks of other non-nuclear nations. If such a move left only four other nuclear armed nations (United States, Russia, China and France) there would indeed be a case for such action. However, the previous chapter has shown that the global appetite for acquiring nuclear weaponry is increasing; proliferating to unstable regions and to chaotic nations and the consequences of any nuclear threats, let alone attacks, have global ramifications. The world is not made up of nations like Sweden and Switzerland. Today there are nations such as Iran, North Korea and Pakistan who all present a serious nuclear threat and tomorrow there may be others.

As an experienced and responsible nuclear weapon state, Britain has a national, regional and even global responsibility to deter such nations, exercise leverage to stop nuclear proliferation and strive towards multilateral disarmament and President Obama's goal of a nuclear weapons free world by 2050.

If the non nuclear nations, such as Sweden and Switzerland, understandably lack the nuclear experience, infrastructure and atomic weaponry capability to deter rogue states, then those responsible nuclear nations like Britain have an obligation to continue to do so. Currently General Beach and others believe that walking away from such a

responsibility and leaving it to others is entirely plausible. He is entirely in favor of leaving it to America!

Leave it to America?

General Sir Hugh Beach attacks any British plan to retain Nuclear Weapons and, conveniently, advocates that Britain should unilaterally disarm and leave any UK nuclear defense matter to the United States, letting the American taxpayer collect that particular tab. Beach states that: "Where a nuclear threat is concerned, America would be in the lead and would provide the necessary cover. And because the operational force provided by U.S. forces is several times larger than the UK's nuclear force, what possible significant contribution could Britain make other than a rather expensive signal?"²

Beach makes some sweeping assumptions here. Firstly, all defense budgets, including the U.S. budget, are facing serious constraints and drastic cuts and he assumes that the U.S. taxpayer and Department of Defense (DoD) will happily pick up the cost for Britain's, Europe's and even NATO's defense whilst Britain can unilaterally disarm and conveniently save the British taxpayer a large sum of money.

Secondly, he assumes that the size of the nuclear arsenal matters. Whilst he is quite correct, that the U.S. does indeed have a nuclear arsenal many times bigger than Britain's, Beach ignores the rationale of nuclear weapons, namely that it only takes one nuclear device to offer significant leverage in a time of crisis. That is exactly what makes nuclear weapons such a desirable acquisition for rogue states and terrorist organizations. Consider Iran, Tehran does not covet 3000 plus warheads like the United States or even

² Ibid., 15.

120 like the UK; a mere half a dozen nuclear devices will more than suffice for Tehran to exert leverage, influence and, at the extreme, unimaginable destruction in region or beyond. Destroying an entire city and causing tens or even hundreds of thousands of deaths and casualties with one single weapon is much more than a 'signal' as Beach would have it.

Finally, Beach points to the traditional defense and nuclear leadership of the United States. Certainly in the second half of the 20th century few can doubt the leadership and example shown by the United States, especially within NATO and the Atlantic region. However, as the United States comes to terms with its own fiscal constraints and realigns its security strategy to focus upon the Middle and Far East, it would be reasonable to expect that the European nuclear powers, namely Britain and France, assume more responsibility. In light of an American focus to the Middle East and across the Pacific, it is not inconceivable that the U.S. Navy could downscale its Atlantic SSBN deterrent patrols and relocate Atlantic Coast Submarines to the Pacific Coast. The United States would undoubtedly maintain some deterrent presence in the Atlantic and there would be other U.S. land launched weapons too. However a requirement for the Royal Navy and French Navy to provide NATO's primary at sea deterrent within the Atlantic Ocean is not unreasonable.

More Conventional - No Nuclear?

Both General Beach and the former Defense Secretary Michael Portillo cite increased spending on conventional forces as compensation in lieu of withdrawing Britain's nuclear deterrent. Post-2010 Strategic Defence and Security Review (SDSR),

and looking ahead to the 2015 Defence Review, the counter argument is that there will be less requirement for Britain's conventional forces in a post-Iraq and Afghanistan world. Britain already has 30,000 troops in Germany as legacy of the Cold War which due to a paucity of UK garrison barracks are waiting to come home. The Royal Air Force maintains 30 plus squadrons of combat fighter and ground attack aircraft, which aside from the recent campaigns in Libya, involving only relatively small numbers, see little active service. At this moment, and for the foreseeable future, Britain's conventional forces are in balance, adequate and are maintaining the necessary operational tempo without significant overstretch; there is no need to expand them any further. Post-SDSR, the British Army will reduce from today's numbers of 108,000 soldiers to 88,000 by 2015, the Royal Navy and Royal Marines, combined, will reduce from 36,000 to 30,000 and the Royal Air Force will also reduce from 40,000 to 34,000 again in the same timeframe.

The SDSR envisages that post Iraq and Afghanistan, British forces will only deploy in coalition with other NATO, EU or UN forces and that footprints on the ground will be minimum and short lived and, finally, Britain will only fight in the conflicts of necessity and not those of choice. The SDSR directs that the UK requires a smaller, more specialized and highly agile conventional fighting force with an emphasis on special forces, quick insertion, fast effect action and rapid extraction. The large armored and infantry formations that were required in the Cold War are now out of vogue and today destined for a combination of scrapping, reduction and allocation as only reservist units at lower readiness.

In simple terms, increased spending on conventional forces is not seen by the SDSR as warranted and assessed as a superfluous waste of tax payers' money by having excessive ships, soldiers and aircraft that would be idle and waiting in UK bases for tasking. The British nuclear deterrent, however, continues with its underway patrol cycle and tasking 365 days a year. As a programme, it does not rest or sit idle and always remains ready to respond at short notice.

More conventional forces in exchange for cashing in Britain's nuclear weapons will not satisfy any of the requirements of today or those likely for tomorrow. Britain remains committed to supporting NATO and coalition operations and it would be logical to ask what the UK is best suited to bring to such an alliance.

NATO and Smart Defense

The current situation in NATO and the need for 'Smart Defense' is perhaps best summed up by NATO Secretary General Anders Fogh Rasmussen who states:

I know that in an age of austerity, we cannot spend more. But neither should we spend less. So the answer is to spend better and get better value for money. To help nations to preserve capabilities and to deliver new ones. This means we must prioritize, we must specialize and we must seek multinational solutions. Taken together, this is what I call Smart Defence.³

As the 28 nations of NATO recover forces from Iraq, draw down from Afghanistan and prepare their individual defense budgets in light of the global economic crisis, the option for a collective and cost efficient Smart Defense makes eminent sense.

Do nations need, let alone can they afford, to maintain broad defense capabilities

³ NATO Secretary General, "Smart Defence," <http://www.nato.int/cps/en/natolive/78125.htm> (accessed 3 January 2012).

in all land, sea and air environments? Britain has not fought alone since the Falklands Conflict of 1982 and any future medium to large scale operations will inevitably involve coalition or NATO involvement. NATO does and will continue to provide for Britain's national defense needs. Operating beyond European borders, NATO is also prepared to act to defend security and economic interests across the globe; Afghanistan and Indian Ocean Counter-Piracy missions are two respective examples.

Contributing to NATO's Smart Defense is efficient, cost effective and in the British national interest. The NATO Secretary General, above, makes the key statement, underpinning Smart Defense, that nations must preserve and develop capabilities and specializations in order to contribute to multilateral defense. Clearly, it would be inefficient and costly for all NATO nations to develop and maintain a nuclear deterrent, an amphibious warfare contribution or even a large-scale armored or artillery capability. Nations should contribute what they do best and most importantly of all, what they do that is unique or in short supply.

Britain is only one of three nuclear NATO powers. Already possessing the nuclear weaponry, infrastructure and experience; Britain should continue to support NATO by maintaining its nuclear weapons capability. In return, other NATO nations, especially on Continental Europe, are better suited to contribute large conventional land elements, especially infantry and armor. Their contribution would allow Britain to make significant savings by reducing British Army maneuver units to within a small number of highly mobile brigades only. Likewise, other NATO nations are better suited and geographically located to provide conventional air defense and attack elements therefore allowing the UK to further draw down the costs incurred by the RAF in maintaining too

many under-employed squadrons of aircraft within UK airbases and on the remote periphery of the Western European land mass.

A historic and traditional maritime nation, Britain and the Royal Navy is best placed and suited to provide NATO with amphibious maneuver, carrier strike, long range submarine operations and ultimately sea based nuclear defense. These are capabilities that few other NATO nations can deliver and prioritizing Britain's contribution to NATO in these disciplines, which is what Britain does especially well, would be in the very essence of Smart Defense. However these rare specializations do heavily favor investment within the Royal Navy and both the British Army and Royal Air Force will fight their corners for more land and air capabilities, albeit that these are already in existence within other NATO and European armies and air forces.

In the 21st Century, it is tempting to assess that Britain no longer has any influence or political sway on the world's stage. Certainly, Britain is not the global military or economic powerhouse it was at the start of the last century. Nevertheless, Britain still has significant political and diplomatic influence and punches well above its weight for such a small island in the Western Hemisphere. It is well worth considering some of these influences and whether or not possessing nuclear weapons have any effect.

Britain in the United Nations

As one of the victorious powers in 1945, Britain was invited to take one of the five permanent Security Council seats at the United Nations (UN). The possession of a nuclear deterrent undoubtedly reinforces the British position within the Security Council but there is no mandated requirement for such a weapon in order to hold such a chair.

Whilst some suggest that without a nuclear deterrent Britain would lose its permanent seat there is no evidence, nor particularly, UN legislation, that would suggest such an outcome. However, such legislation could change and should Britain give up its nuclear weapons then many emerging countries in say Africa or South America would target a non-nuclear Britain as the obvious Security Council seat to covet.

Britain has many positive and influential effects within today's global affairs. It is a member of the European Union (EU), the leader of the British Commonwealth of 57 States, a G8 economic state and London is still the global financial capital. English language remains the international language for commerce, industry and travel. Britain's universities, its academia and its educational qualifications remain world class and highly coveted. The British way of democratic politics and its fair and open legal system remain the bench mark against which many aspire. In 2011, Britain ranked 16th out of 182 nations in the worldwide Corruption Index⁴ and in 2010, ranked 19th out of 167 nations in the Economist magazine's Democracy Index.⁵ Clearly Britain is still an active and influential player in world politics and diplomacy regardless of nuclear weapons. It is worthy to note that the UK is well respected and recognized internationally for its ownership of nuclear weapons and its strict adherence to the nuclear weapons treaties considered in earlier chapters. For all of these reasons Britain should remain a permanent member of the Security Council. Yet nations such as India, Brazil, South Africa, Germany and Japan too have economic and regional rationale to claim for a permanent

⁴ Transparency International "Global Corruption Index" http://www.transparency.org/policy_research/surveys_indices/cpi (accessed November 14 2011).

⁵ The Economist Intelligence Unit, "Democracy Index 2010" The Economist Intelligence Unit Report 2010, 3.

seat. So long as Britain maintains its nuclear deterrent its permanent chair within the Security Council is assured.

On the matter of nuclear weapons, Britain is rarely, if ever, challenged or questioned by the international community. The lack of any challenge to Britain's nuclear arsenal from other states or international organizations suggests that the UK is an established, respected and, most importantly, trusted and safe nuclear weapons operator. When we consider Pakistan, Iran and North Korea against the Democracy Index of 167 nations the scores for 2010 are recorded as 104, 158 and 167 (bottom) respectively.⁶ One can easily see why a nuclear nation such as Britain is so well trusted when such authoritarian regimes have their finger on, or in the case of Iran, close to a nuclear trigger. Internationally, there is very little opposition to responsible nations like Britain maintaining nuclear weapons readiness and a necessary counter balance to those less stable and undemocratic regimes that also own or aspire to achieve an atomic arsenal. The real question and concern of the UK's nuclear deterrent ownership comes from within Britain and the 25 billion pound price tag of renewing the SSBN deterrent is the thorn in the side of the already stretched British taxpayer.

⁶ Ibid., 6, 7, 8.

CHAPTER 6: BRITISH OPTIONS BEYOND 2025

The Sterling and Scottish Problems

In January 2012, two significant events occurred within the UK that will have profound effects on any decision to replace the British nuclear deterrent. Firstly, for the first time ever, UK national debt passed the one trillion pound figure. Secondly, Prime Minister David Cameron held meetings with the leader of the Scottish Nationalist Party, Alex Salmon, to discuss the growing desire of Scotland to hold a referendum in 2014 to decide whether or not Scotland becomes fully independent from the UK.

The first issue is easy to grasp. In these dire economic times and with a one trillion pound deficit, the issue of finding the 25 billion pounds necessary in order to commit to a similar replacement of the SSBN deterrent is a severe problem for any government. It should be no surprise that today's British government, like the previous one, is making no cash-down payments or final commitment until it absolutely has to and, allowing for the necessary replacement submarine procurement cycle, that date is 2016.

The second issue of Scottish independence is more complex. The Royal Navy has three naval bases; Portsmouth and Plymouth, which are both on the English south coast, and Faslane on the Scottish west coast. Britain's SSBN deterrent is operated by the Royal Navy's Submarine Service from the Faslane base in Scotland.

Faslane is 20 miles north west of Glasgow, it has deep water, affords 24 hour access year round, is secluded and only used by the Royal Navy and can afford maximum security to the submarines, missiles, crews and all supporting facilities. This base and the neighboring nuclear armaments depot at Coulport deliver all maintenance, armament

support activities. Faslane has a modern submarine lift facility that can lift a 16000 tonne submarine for maintenance and the Coulport depot, nearby, has a complete and secure nuclear arsenal and weapon maintenance wharf and submarine hangar. Most of these facilities were procured, at enormous costs running into billions of pounds, to support the current Vanguard Class submarines; they are well maintained, relatively modern and still have plenty of life in them to continue supporting any replacement deterrent well into the middle of this century. In sum, Faslane is the ideal and only submarine base and is perfectly suited to support the at sea deterrent.

The Scottish National Party, the majority party in the partly devolved Scottish Government is seeking referendum for full independence in 2014. Mark Lynch writing for the Royal United Services Institute (RUSI) stated:

The Scottish National Party's (SNP) landslide victory in the recent Scottish Parliament elections has opened the door for a referendum on Scottish independence in the latter half of the SNP's term in governance. While polling continues to show little support for Scottish independence amongst the Scottish electorate, a yes vote is not inconceivable given the SNP's ability to set the referendum date and tap into the deep rooted mistrust that has existed amongst the Scottish electorate for the Conservative party.¹

Furthermore, the Scottish Nationalist Party remains totally committed to a nuclear free Scotland and if they succeeded in achieving independence for Scotland in a 2014 referendum, this could mark the end for Royal Navy submarine operations in Faslane. Mark Lynch correctly observes:

The most pressing concern for British security interests is the implications of Scottish independence for Britain's nuclear deterrent. Given that the UK's entire nuclear arsenal is located in Faslane and Coulport in Western Scotland, the Scottish government's decisions will play an immense role in Britain's nuclear policy. The SNP have been emphatic in their opposition to nuclear weapons being

¹ Lynch, Mark, "The Security Implications of Scottish Independence." Royal United Services Institute, <http://www.rusi.org/analysis/commentary/ref:C4DF0A2F39DAA2/> (accessed 18 January 2012).

based in Scotland and they would seek to remove them after independence. As the SNP manifesto suggests 'Our opposition to the Trident nuclear missile system and its planned replacement remains firm; there is no place for these weapons in Scotland.'²

The two English Royal Naval bases of Portsmouth and Plymouth are both tidally constrained and too shallow to accommodate the deep drafts of a Trident missile SSBN. Both of these ports are also dual military and commercial use and far from ideal given the stringent security requirements that rightly surround a nuclear deterrent submarine. From navigational and security perspectives they are totally inadequate for SSBN operations. If another base was to be found for the SSBN Fleet it would need to be started from anew. It would involve huge investment and require difficult, perhaps politically impossible, negotiations with the local populace and authorities in order to grant the nuclear operating licenses and necessary infrastructure required. In a small island, with most major ports already stretched and constrained by commercial traffic, there is no obvious and certainly no cheap, or even reasonably priced, alternative to Faslane in Scotland.

Perhaps the most relevant reason for delaying any decision to replace Britain's nuclear deterrent until 2016 is to await the outcome of any referendum decision in 2014.

Options for Deterrence

Looking ahead to 2016, what are the nuclear deterrent options for replacing the ageing Vanguard Class SSBN CASD. The 2006 Government Paper, "The Future of the

² Ibid.

United Kingdom's Nuclear Deterrent" considered four options for providing the follow on deterrent to the VANGUARD Class SSBN Submarine system. Those options were:³

- Option 1: A long-range aircraft equipped with cruise missiles.
- Option 2: A large surface ship equipped with Trident ballistic missiles.
- Option 3: A land-based silo system equipped with Trident ballistic missiles.
- Option 4: A similar replacement of the submarine and Trident system.

The 2006 Paper dismissed the first three options and came out wholly in favor of Option Four. In light of the current financial situation, and the potential of Scottish Independence, it is necessary to re-examine these options and also consider the potential for a fifth option of smaller attack submarines firing nuclear cruise missiles.

Option 1: A long-range aircraft equipped with cruise missiles.

The UK's current fixed wing military inventory is limited to the small air-to-air fighter, the Typhoon and the aged ground attack two seat jet, the Tornado, and C130 transport aircraft. All of these aircraft are either too small or too slow and vulnerable, in the case of a C130, to carry a new nuclear cruise missile. The 2006 government white paper realistically identified that this option would require completely new development right across the weapon system with a new large fixed-wing aircraft and a new air launched cruise missile.⁴

This option cannot provide round the clock deterrent and short to immediate notice to fire, like the submarine system at option four. Any aircraft option is vulnerable

³ UK Cabinet Office, The Future of the United Kingdom's Nuclear Deterrent, (Government White Paper CM 6994 December 2006), 34.

⁴ Ibid.

to a pre-emptive strike whilst the aircraft are on the ground and subject to anti-air defenses as the aircraft approach their target. The weather and even volcanic ash clouds can preclude aviation sorties. Furthermore the issue of national over-flight restrictions whereby other states' national airspace might be closed to any aircraft suspected of carrying nuclear weapons or that prior permission would be required. The 2006 white paper when costing this new system concluded that a fleet of 20 large aircraft would be needed to provide adequate redundancy and with a new 3000km nuclear missile this option would be the most expensive of all four options considered.⁵ This air option is impractical given the system vulnerabilities, the delay to react in any crisis and the lack of 24 hour, 365 day deterrence.

Option 2: A large surface ship equipped with Trident ballistic missiles.

The option of continuing to use the Trident D5 missile system, but based within silos on a surface ship was the second option considered by the 2006 paper. Certainly the current nuclear missile deterrent infrastructure is already in place and building a surface ship is generally much cheaper than a submarine. The 2006 paper rejected this option due to the vulnerability of a surface ship as it can easily be detected, tracked and, should a potential aggressor decide, attacked. On a positive note, this option would certainly allow continuous-at-sea deterrence and probably require only three platforms given the comparative ease of maintenance in a conventional surface ship vice the complexities of maintenance in a nuclear submarine. The 2006 paper also estimated that this system would have similar through life costs to the submarine option given that other warships

⁵ Ibid., 35.

would be needed to provide the necessary defense in depth required to protect this nuclear armed ship once underway at sea.⁶

Option 3: A land-based silo system equipped with Trident missiles.

The third option discussed by the UK Government in 2006, again involved the option of maintaining the current D5 Trident missile system but this time locating it in land based silos as opposed to at sea. Again the weapon system, infrastructure and experience and skill sets are already there. This option can also achieve continuous deterrence around the clock. Nevertheless there are still two critical drawbacks. Firstly the system will be fixed and therefore the range of the deterrent is limited entirely to the range of the missile. Unlike the moveable delivery platform option, there is no way for this land based option to maneuver the weapons to within range of an otherwise remote target. Secondly, perhaps most critically, this system is fixed and completely exposed to any pre-emptive strike or attack. This would be especially so within the small geographic constraints of Britain, which unlike say the United States, Russia or China, does not have vast, unoccupied and easily defensible areas. The 2006 Government paper makes a valid illustration when it compares the U.S. silo system based at Warren USAF base and shows the size equivalent to that of most of the country of Wales⁷. Put simply, Britain does not have the available real estate within its small and densely populated island shores.

⁶ *ibid*, 36.

⁷ *Ibid.*,37.

Option 4: Like-for-like Submarine and Trident

The preferred and gold plated, or 25 billion pound option, is to replace the four VANGUARD class SSBNs with a new, project named SUCCESSOR, class SSBN and continue to maintain the tried and trusted CASD submarine deterrent. Of course this comes with the expensive price tag and relies entirely on the Faslane base infrastructure and maintenance support. The merits of the CASD have already been touched upon in an earlier chapter but in light of some of the contemporary threats discussed it is worth recapping on why the submarine and Trident D5 missile CASD is such an ideal system.

Firstly, the on patrol and submerged SSBN remains completely hidden and invulnerable to attack or pre-emptive strike. As a mobile platform it can move anywhere in the world's oceans in order to position secretly in any developing or escalating crisis.

Secondly, the SSBN is at very short notice to fire and can react in swift order to any message to fire, especially in a dynamic situation when British leadership need a swift strike to counter or retaliate to any unforeseen threat.

Thirdly, the D5 missile is a supersonic rocket which launches into a space orbit and deploys its warheads against any target with high accuracy and at supersonic speeds. There are currently no weapon systems available, outside of the United States, that could counter such a D5 Trident strike. In sum, it gives an exceptionally high chance of accurate and swift delivery.

Fourthly, the unclassified (open source) range of a D5 Trident missile is 6500-12000 kilometers depending on the warhead payload,⁸ which means that with judicious positioning of the submarine, everywhere on the surface of the earth is within range.

⁸ T. Ogilvie-White, *On Nuclear Deterrence: The Correspondence of Sir Michael Quinlan* (London: IISS, 2011), Appendix 2.

Against nuclear threats in the Middle or Far East presented by Iran and North Korea respectively, Britain's SSBN Trident deterrent and any like-for-like replacement offers a guaranteed and swift nuclear strike option which, importantly, these and any other threatening nations are only too aware of.

Finally, the replacement SSBN CASD option is a continuation of the status quo. It is what Britain has done for over forty years and training, tactics, infrastructure and familiarity are all there, well known and rehearsed.

Not surprisingly, the 2006 Government white paper came to similar conclusions and came down firmly in favor for this option to carry forward Britain's nuclear deterrence beyond 2025. But that was in 2006, before the financial crisis, a one trillion pound deficit and the very recent concern over Scottish independence shutting down a submarine base.

New Option: Attack submarine (SSN) launched cruise missile

One option that was not considered by the 2006 government paper was that of deploying the small cruise missile, with a nuclear warhead, within the fleet of nuclear attack submarines (SSNs). These submarines are nuclear powered but conventionally armed with torpedoes and the standard Tomahawk Land Attack Missile (TLAM). The current fleet of six older TRAFALGAR Class SSNs is undergoing replacement with the six newer class ASTUTE SSNs and these are the only assets within the British inventory that can deliver precision TLAM conventional strike by launching these weapons horizontally through torpedo tubes. The TLAM weapon is much smaller than a Trident D5 missile and the range and warhead payload would be substantially reduced,

nevertheless a nuclear tipped TLAM would still have a range of approximately 2500km (open source)⁹ and given that the delivering submarine could use its submerged stealth to locate to within the range of most of the world's surface and certainly all of today's likely targets, this system would provide the necessary range. The submarine infrastructure is already there and, in the case of new ASTUTE submarines, is paid for and available well into the 2030s and beyond. Submarine-launched cruise missile technology, tactics and experience is already in plentiful supply within the Royal Navy. There are drawbacks to this system and the most significant being that the current cruise missiles are not only shorter in range compared to the much larger Trident D5 ballistic missiles, they are critically, much slower and sub-sonic. Travelling at cruise speeds of less than 1000 mph (open source),¹⁰ they are susceptible to being intercepted by opposing aircraft, air defense systems and therefore easy to shoot down whilst en route to their targets. This then poses the problem of not only failing to achieve the mission and strike but, potentially, handing your opponent an unused nuclear warhead! Certainly the chance of successfully avoiding any enemy air defense system is increased if the submarine is able to close to within a few miles of any coast line, shortening the reaction time of any opposition radars and defenses, and also cruise missile technology continues to improve and faster and smarter weapons could be available. Of course, this missile is still much smaller than a Trident D5 missile and the nuclear warhead payload it could carry is significantly smaller too. Yet it deserves more in-depth and classified research given that these systems are available, potentially at a much lower cost and that the smaller SSN submarines are even

⁹ Missile Threat - The Claremont Institute http://www.missilethreat.com/cruise/id.135/cruise_detail.asp (accessed 24 December 2011)

¹⁰ Ibid.

able to operate out of the southern England naval ports, thereby providing an option that could be required if Scottish independence demanded the closure of the larger SSBN base in Faslane.

Interestingly the recent paper published by the Liberal Democrat think tank Centre Forum proposes that Britain should immediately disband its Trident Missile capability but retain the option to redevelop nuclear weapons at a later date in the face of an imminent threat. The paper recommends that, Britain should "retain the capability to produce a nuclear weapon at short (12 months) notice in the event that a credible nuclear threat to the UK emerges."¹¹ Such an option is complete folly given that any potential threat to Britain will probably not be so obliging as to give 12 months notice. Secondly any British re-development will be seen as an escalation during a sensitive time. Finally the Centre Forum paper conveniently ignores the difficulty of how such a re-developed weapon would be delivered if the current Trident D5 and SSBN system is completely and immediately disbanded.

There are no straightforward choices for the replacement of Britain's strategic deterrent. The current fiscal climate and the possibility of Scottish independence only serve to complicate the decision making process. Having successfully operated a credible deterrent for over 40 years and with much of the deterrent infrastructure already in place the government would be right to commit to retaining and replacing the current system, especially in today's uncertain world. The 25 billion pounds needed to replace the deterrent are certainly difficult to find, though a consolation would be that most, if not all, the money spent would be inside Britain and on British companies and employees.

¹¹ T. Fenwick, *Dropping the Bomb: A Post Trident Future*. (London: Centre Forum, 2012), 9.

As for Scottish Independence, the government must act now to ensure that even if Scottish Independence did follow the 2014 referendum, Britain could still maintain and operate its nuclear submarine base and deterrence infrastructure at Faslane. Such a written agreement should underwrite any decision to allow the 2014 referendum.

The SSBN deterrent represents the most effective and cost efficient way of providing for the UK's future. As Sir Michael Quinlan, the senior Civil Servant responsible for the nuclear deterrent, stated in 2006, "If the UK hadn't already developed a nuclear deterrent when it faced the overwhelming threat during the Cold War, it would not opt to develop one now. However, an independent nuclear deterrent was acquired, and at great cost, and so the UK should continue to invest in it in case it needs it again in future."¹²

¹² T. Ogilvie-White, *On Nuclear Deterrence: The Correspondence of Sir Michael Quinlan* (London: IISS, 2011), 220.

CONCLUSION

National debt, a reluctance to invest in defense post drawn-out conflicts in Iraq and Afghanistan, and even the real prospect of Scottish Independence, all line up to threaten the future of the UK's independent nuclear deterrent. In a post Cold War era when many in both political and military circles no longer see the relevance of nuclear weapons, opposition and apathy to renewing Britain's commitment to nuclear weapons is growing.

With any final decision on a replacement system delayed until 2016, any relevant debate taking into account any of the above concerns, has been sidelined; almost too painful to consider in the current fiscal and political climate.

This paper has shown that Britain currently possesses a specialized and effective weapon system that is capable, relevant and operated in a responsible manner. This deterrent still contributes to the defense and security of the UK, NATO and the wider global community. Britain remains in full compliance of all international treaties with regards to nuclear weapons and even leads the way in its efforts to reduce warhead numbers.

Ironically, we have indentified that at a time when those of influence in Britain are questioning the relevance of British nuclear weapons and even calling for unilateral nuclear disarmament, the appetite for acquiring atomic weapons in other unstable and less democratic states is on the increase.

This paper has identified that Britain still has a significant role to play with global politics through its diplomatic and organizational links and treaties. Externally Britain is respected and trusted as a nuclear power.

Equally, it is important to recognize that the options of nuclear deterrence proposed in 2006 are now dated given the recent challenge posed by the government's fiscal crisis and the possibility that a future independent and nuclear-free Scotland.

This paper has shown that in this uncertain and unstable world there is still a case for retaining and renewing Britain's independent nuclear deterrent towards the middle of the century. All concerned parties must now re-engage in the debate of what will replace today's deterrent given the constraints of money and potential Scottish base access. All options need to be re-evaluated in light of these recent developments. The timing for such an evaluation is difficult in the current fiscal circumstances, yet to delay any further risks jeopardizing the continuation and succession of the British deterrent and ultimately leaves Britain and the world at large a less secure place in the middle of this century. Above all else, Britain must take a positive decision by 2016 to continue Britain's nuclear deterrent if it is to guarantee national security into the middle of this century.

The final words of this paper belong to the late Sir Michael Quinlan of the Royal United Services Institute (RUSI) and former MOD Senior Civil Servant who in 2006 when addressing the last debate regarding the future of Britain's nuclear deterrent stated:

History is full of profoundly unpleasant surprises and we need to be careful that we do not lead ourselves into a position of weakness in the future that we might regret.¹

¹ International Affairs and Defense Section, Research Paper 06/53: The Future of the British Nuclear Deterrent (London: House of Commons Library, 3 November 2006) 31.

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VITA

Tim Green was educated at Beverley Longcroft School, East Yorkshire and Teesside University, where he gained an honours degree in History and Politics before joining the Royal Navy in 1993.

Following submarine training he joined HMS TRIUMPH as the Navigating Officer conducting numerous patrols and deployments as far away as the Falkland Islands. Following the Submarine Advanced Warfare Course he served in HMS VENGEANCE as a Watch Leader and the Operations Officer bringing this new ballistic missile submarine into service and undergoing her first 2 deterrent patrols.

Returning to the Surface Fleet in 2003 he had a short appointment in HMS IRON DUKE during Operation KEELING in Sierra Leone. In 2004 he qualified as a Principal Warfare Officer with a specialization in underwater warfare before joining the warfare team in HMS EDINBURGH deploying to the Mediterranean. On returning to the UK he was appointed to HMS PORTLAND and as her Operations Officer undertook a deployment to the South Atlantic and western seaboard of South America.

Appointed to HMS ILLUSTRIOUS as a Group Warfare Officer he deployed with the Carrier Strike Task Group to the Indian Ocean early in 2006. On the return passage he was a lead maritime planner during Operation HIGHBROW and its Beirut evacuation operations. In the summer of 2006 he joined the newly formed battle staff of the Commander United Kingdom Carrier Strike Group and undertook a number of Carrier Strike exercises throughout 2007, which saw this small staff achieve full operational capability.

He assumed command of the mine hunter HMS BLYTH in April 2008, in the Arabian Gulf, and conducted historic ordnance disposal operations during Operation TECATE in Iraqi and Kuwaiti territorial waters. On completion of this Gulf tour, he assumed command of HMS WALNEY in August 2008 for 12 months of UK based operations and training before briefly returning to the Arabian Gulf in command of HMS GRIMSBY during Operation TELIC in the summer of 2009.

He assumed command of HMS WESTMINSTER in February 2010, bringing this frigate out of refit, generating the ship for operational tasking and then undertaking the 2011 Libyan Operations DEFERENCE and ELLAMY.

Joining the United States Joint Advanced War Fighting School, Norfolk, Virginia in July 2011, Commander Green is now reading a Masters Degree in Campaign Planning.

