CANADIAN FORCES COLLEGE / COLLÈGE DES FORCES CANADIENNES
JCSP 34 / CCEM 34

EXERCISE/EXERCICE NEW HORIZONS

The UK's Strategic Nuclear Deterrent - Prestige, Proliferation or Protection?

By /par Wing Commander J D Ball RAF

24th April 2008

ABSTRACT

The contemporary threats of the 21st Century question the relevance and utility of nuclear weapons. Yet amid controversy, in March 2007, the United Kingdom's Government elected to renew its commitment to the nation's strategic nuclear deterrent. This paper examines the United Kingdom's obligations as a signatory to the Nuclear Non-Proliferation Treaty, and considers the motives supporting the Government's commitment to maintain a nuclear arsenal in future decades.

The strategic nuclear deterrent now provides the United Kingdom with a nuclear weapon capability that will last beyond 2050. Envisioned as the minimum required deterrent, in accordance with the nation's international obligations, concerns of declining status undoubtedly influenced the debate. However, when measured against the spectrum of potential future threats, the primary factor in the decision to persist as a nuclear weapon state was undoubtedly that of national security.

"A nuclear war is the sole human-made catastrophe that could end our civilization in a single day, any day of the year. Nuclear arsenals remain enormous, nuclear capabilities are spreading, and the likelihood of the use of nuclear weapons is growing."[1]

On the 14th March 2007, the United Kingdom's (UK) Labour Government elected to renew the Royal Navy's Vanguard-class nuclear submarines, the nation's sole remaining nuclear weapon delivery platform, thus declaring a commitment to maintain the nation's Strategic Nuclear Deterrent (SND) beyond 2050. The vote caused the largest backbench rebellion concerning a domestic issue since Labour came to power in 1997: three junior ministers resigned in protest and almost one hundred Labour rebels voted against their party.[2] Some argued that the UK had missed an opportunity to lead multilateral disarmament across the globe and acted in direct conflict with its obligations as a signatory to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT).[3] Some suggested that the SND was no longer relevant in the contemporary environment of asymmetric threats, non-state actors and global terrorism.[4] Others asserted that aspirations of global prestige and status influenced the decision.[5] In contrast, Prime Minister

---

[1] Canadian Pugwash, "Canadian Pugwash Calls for NATO to Denuclearize," http://www.pugwashgroup.ca/events/documents/2007/2007.06.07-NATO_brief.pdf; Internet; accessed 12 January 2008, 3.

[2] British Broadcasting Corporation, "Is This End of Trident Debate," http://news.bbc.co.uk/1/hi/uk_politics/6451615.stm; Internet; accessed 6 January 2008.

[3] Mr Nick Harvey (North Devon) (LD), United Kingdom House of Commons Debates, 14 March 2007. Archive on-line; available from http://www.publications.parliament.uk/pa/cm200607/cmhansrd/cm070314/debtext/70314-0009.htm; Internet; accessed 22 December 2007.

[4] Mr. Michael Ancram (Devizes) (Con), United Kingdom House of Commons Debates, 14 March 2007. Archive on-line; available from http://www.publications.parliament.uk/pa/cm200607/cmhansrd/cm070314/debtext/70314-0012.htm; Internet; accessed 22 December 2007.

[5] John McDonnel (Hayes and Harlington) (Lab), United Kingdom House of Commons Debates, 14 March 2007. Archive on-line; available from http://www.publications.parliament.uk/pa/cm200607/cmhansrd/cm070314/debtext/70314-0015.htm; Internet; accessed 22 December 2007.

Tony Blair insisted that the decision remained fully compatible with the nation's international legal obligations and maintained that an independent SND remained an "essential part of [the UK's] insurance against the uncertainties and risks of the future."[6]

Does the renewal decision contradict Britain's[7] obligations to the NPT and nuclear disarmament? Can nuclear weapons deter future threats to Britain's national security? Alternatively, in maintaining an independent nuclear deterrent, is the UK simply attempting to preserve status on the global stage? This essay will assess Britain's requirement to sustain a nuclear weapon capability, first, by reviewing the historical purpose of the SND and the relevance of Cold War deterrence theory in the contemporary arena. Next, it will analyse the impact of disarmament, with specific reference to the NPT, in order to assess the renewal decision when measured against the UK's obligations and aspirations. The paper will then consider the capabilities and motives of possible threats to the UK in the 21st Century. Finally, the historical link between prestige and nuclear weapons will be examined in order to determine if the quest for status swayed the decision of March 2007. This analysis will prove that it was primarily precaution and protection, supported by concerns of declining prestige, which cemented the decision to maintain an independent nuclear deterrent, despite the UK's continuing commitment to non-proliferation.

---

[6] United Kingdom, The Secretary of State for Defence and The Secretary of State for Foreign and Commonwealth Affairs, *The Future of the United Kingdom's Nuclear Deterrent* (London: The Stationary Office Limited, December 2006), 5.

[7] The author recognises the political and geographical differences between Great Britain and the United Kingdom. However, in order to improve the flow of this paper, these terms are synonymously when referring to the SND.

THE SND – PAST AND PRESENT

"*The UK, as a member of the British Commonwealth and a Great Power, must be prepared at all times to fulfil her responsibility not only to the United Nations but also to herself*."[8]

Great Britain's association with nuclear weapons began in the heart of World War Two, in concert with developments in the United States (US). However, despite early trans-Atlantic collaboration, America became increasingly cautious regarding the spread of nuclear weapon technology. Consequently, in 1946, the McMahon Act banned the US from releasing atomic technology to other powers, including the UK.[9] This, in turn, cemented the requirement for the UK to develop an independent nuclear weapon capability. Aware of Britain's dwindling world power status, and set against a background of worsening relations with the Soviet Union, UK Foreign Secretary Ernest Bevin famously announced, "we have got to have this thing over here, whatever it costs … we have got to have [a] bloody Union Jack on top of it."[10] Thus, ten years later, following successful US and Soviet testing of thermonuclear weapons, the UK became the third nuclear weapon equipped power.

In 1957, the UK and US recommenced the sharing of nuclear weapon technology, representing the start of a close, long-standing relationship regarding nuclear weapon expertise

---

[8] United Kingdom, Defence White Paper, 1948 quoted in Select Committee on Defence: *Written Evidence: Memorandum from Dr Andrew Dorman*, 8 March 2006; available from http://www.publications.parliament.uk/pa/cm200506/cmselect/cmdfence/986/986we14.htm; Internet; accessed 28 December 2007.

[9] United States, Atomic Energy Commission, *Atomic Energy Act 1946* (Washington, DC: US Government Printing Office, 1965); available from http://www.osti.gov/atomicenergyact.pdf; Internet; accessed 13 January 2008.

[10] Ernest Bevin: quoted in "The History of the British Nuclear Deterrent," *Daily Telegraph,* 5 December 2006; available from http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2006/12/04/utimeline104.xml; Internet; accessed 8 January 2008.

that remains to this day. Nonetheless, the UK's partial reliance upon US nuclear technology was apparent as early as 1963, when Britain purchased the US-designed Polaris submarine-launched ballistic missile system. Aware that it could not expect to rely upon the US in every eventuality, the UK also maintained its own national, air-launched systems and hence maintained a mixture of both dependence and independence from the US. Using similar nuclear weapon systems against a common Soviet foe, underpinned by the collective security provided by the North Atlantic Treaty Organisation, the American strategic nuclear guarantee remained the basis for security in Western Europe. The UK's role, best explained by then UK Defence Minister Francis Pym, was to provide a second centre for decision-making strategy within the Alliance:

> The decision to use nuclear weapons would be an agonising one for any national leadership and the Soviets must know this; but to have to calculate whether either of two powers would be prepared to do so if pressed to the extremity, doubles their uncertainty, complicates their planning and increases their risks. It is in this way that our strategic and theatre nuclear forces contribute so much to the collective deterrence of the Alliance.[11]

This unique relationship continued when the Polaris era ceded to the next generation of submarine-launched ballistic missile, the US-designed Trident D5, which commenced service in 1994. In the post-Cold War environment, the UK also retired its air-launched nuclear weapons, leaving the nation with a SND based exclusively on four Vanguard-class submarines, designed and built in the UK, equipped with a stockpile of fewer than 160 Trident D5 missiles, armed with British nuclear warheads.[12]

---

[11] Francis Pym, quoted in Regina Cowan-Karp, *Security With Nuclear Weapons: Different Perspectives on National Security*, (Stockholm: Oxford University Press, 1991), 158.

[12] United Kingdom, The Foreign and Commonwealth Office, *The Future of the United Kingdom's Nuclear Deterrent Fact Sheet 2*; available from http://www.mod.uk/defenceinternet/aboutdefence/corporatepublications/policystrategyandplanning/hefutureoftheunitedkingdomsnucleardeterrentdefencewhitepaper2006cm6994.html; Internet; accessed 28 December 2007.

The Government's[13] 2007 decision to renew the Vanguard-class submarines reflected the considerable lead-time required to procure and develop a successor, and signified its commitment to maintain a SND well into the 21st Century. More specifically, the age of the legacy vessels was such that they would reach their design life in the early 2020s.[14] Since the production of a replacement capability would take approximately seventeen years, the decision to renew in 2007 was necessary in order to maintain a continuous nuclear deterrent in future decades.[15] This successor will have a lifespan of more than thirty years, commencing in the mid-2020s. Therefore, the Government's decision in 2007 will affect the UK's defence capability well beyond 2050.[16] As a result, this time horizon forms the basis of analysis for the remainder of this paper.

---

[13] Unless specified, the term 'government' refers to the Government of the United Kingdom.

[14] United Kingdom, The Foreign and Commonwealth Office, *The Future of the United Kingdom's Nuclear Deterrent Fact Sheet 1;* available from http://www.mod.uk/defenceinternet/aboutdefence/corporatepublications/policystrategyandplanning/hefutureoftheunitedkingdomsnucleardeterrentdefencewhitepaper2006cm6994.html; Internet; accessed 28 December 2007.

[15] *Ibid.*

[16] *Ibid*.

THE THEORY OF NUCLEAR DETERRENCE

"The fundamental principles relevant to nuclear deterrence have not changed since the Cold War, and are unlikely to change in the future."[17]

The US Department of Defence defines deterrence as "the prevention from action by fear of the consequences."[18] Thus, deterrence is based upon what one *can* do, not what one *will* do. When placed in the context of the Cold War, deterrence emerged through the ultimate fear of immense retribution, made most obvious in the concept of Mutually Assured Destruction.[19] This theory was based on several key elements, which included the assumption of severe conflict, the concept of retaliatory action, the perception of unacceptable damage, and the impression of credibility, all underpinned by the assumption that key actors were rational in thought.[20] In the Cold War, each element was easily recognisable. Nevertheless, it was the latter factor that proved most fundamental. The success of nuclear deterrence relied upon considered, lucid decisions by the leaders of the nuclear weapon states on each side of the Iron Curtain.

The deterrent effect of nuclear weapons in the contemporary environment is less clear. At its core, deterrence theory assumes the pivotal role played by rational actors. While this remains

---

[17] Michael Codner, Gavin Ireland, and Lee Willett, *The United Kingdom's Independent Strategic Nuclear Deterrent Observations on the 2006 White Paper and Issues for the Parliamentary Debate,* (Whitehall: The Royal United Service Institute for Defence and Security Studies, 2007), 4; available from http://www.rusi.org/research/militarysciences/capabilities/commentary; Internet; accessed 17 November 2007.

[18] United States, Department of Defence, Dictionary of Military Terms; available from http://www.dtic.mil/doctrine/jel/doddict/data/d/01667.html; Internet; accessed 7 January 2008.

[19] Mutually Assured Destruction is a doctrine of military strategy in which a full-scale use of nuclear weapons by two opposing sides would effectively result in the destruction of both the attacker and the defender, thus leading to stability through fear of retribution.

[20] Patrick Morgan, *Deterrence Now*, ed. Steve Smith. (United Kingdom: Cambridge University Press, 2003), 8.

valid against traditional nation-threats in the post-Cold War era, reliance upon rationality clashes with the illogical notions of the revolutionary non-state actor, or the religious extremism of the suicide bomber. Thus, in the absence of the rational adversary, some suggest that nuclear weapons are no longer relevant in the 21st Century, since "no other credible nuclear threat has stepped forward to replace the Soviet Union as a rationale for the British nuclear weapons system."[21]

Conversely, others insist that a nuclear deterrent still holds value because large terrorist organisations typically enjoy the support of a nation state.[22] Therefore, activists can be deterred indirectly, by threatening state-sponsors of terrorism. Prime Minister Blair reinforced this in stating:

> While our nuclear deterrent is not designed to deter non-state actors, it should influence the decision-making of any state that might consider transferring nuclear weapons or nuclear technology to terrorists. We make no distinction between the means by which a state might choose to deliver a nuclear warhead whether, for example, by missile or sponsored terrorists.[23]

This statement supports several of the deterrence principles highlighted earlier. Specifically, it implies severe retaliation against the sponsoring state, it maintains credibility in the UK's resolve to resort to nuclear weapons and it addresses the most 'rational' arm of any attacking organisation.

---

[21] Robin Cook, "Worse Than Irrelevant," *The Guardian*, 29 July 2005.

[22] Colin S. Gray, *Another Bloody Century* (Great Britain: The Orion Publishing Group, 2005), 276.

[23] United Kingdom, The Secretary of State for Defence and The Secretary of State for Foreign and Commonwealth Affairs, *The Future of the United Kingdom's Nuclear Deterrent* (London: The Stationary Office Limited, December 2006), 19.

For deterrence to remain a valid concept, it must be applicable to the contemporary environment. While conventional reprisals should deter the conventional threat, nuclear weapons must remain in order to deter those threatening to use weapons of mass destruction. If faced with the isolated, independent nuclear terrorist, the theory is less robust. However, against a diverse cross-section of other potential adversaries, the theory retains merit. As long as a defender can present a credible deterrent, which might include the use of nuclear weapons, and such a deterrent can influence the decisions of potential aggressors, even indirectly as in the case of state-sponsored terrorism, then the theory remains relevant. This is indeed the case in the contemporary operating environment of the 21st Century.

THE NPT AND NUCLEAR DISARMAMENT

"If we want to avoid a cascade of nuclear proliferation, we need a major international effort to strengthen the regime before it is too late."[24]

Turning now to analyse Britain's obligations as a signatory to the NPT, it is necessary to examine whether the Government's decision was consistent with the Treaty. Many suggested it was not, and highlighted that Britain had missed an opportunity to lead the way to global denuclearisation.[25] Others doubted the UK's commitment to nuclear disarmament and thus

[24] Kofi Annan, "Nuclear Non-Proliferation Treaty Faces Crisis of Compliance, Confidence," United Nations Statement (18 May 2006); available from http://www.un.org/News/ossg/sg/stories/statments_search_full.asp?statID=29; Internet; accessed 28 December 2007.

[25] Canadian Pugwash, "Canadian Pugwash Calls for NATO to Denuclearize," http://www.pugwashgroup.ca/events/documents/2007/2007.06.07-NATO_brief.pdf; Internet; accessed 12 January 2008, 7.

viewed the decision to renew Trident as hypocritical.[26] Nevertheless, the Government argued that the decision to retain a nuclear deterrent was "fully consistent with all international legal obligations, including those under the NPT,"[27] and insisted that it remained committed to the total elimination of nuclear weapons.[28]

The primary purpose of the NPT is to curb the spread of nuclear weapons and associated technology.[29] The Treaty aims to achieve this under three broad areas: prevention of the proliferation of nuclear weapons, ensured access to peaceful nuclear technology and a commitment by nuclear weapon states to disarmament.[30] Thus, it is this third area that is most relevant to the debate surrounding renewal of the SND.

The UK is one of five nuclear weapon states that are signatories to the NPT - it is to these nations that Article VI of the Treaty is specifically relevant. [31] This states that:

> Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to

---

[26] Rebecca Johnson, Nicola Butler, and Stephen Pullinger, *Worse than Irrelevant? British Nuclear Weapons in the 21st Century*, (London: Acronym Institute for Disarmament Diplomacy, 2006), 41.

[27] United Kingdom, House of Commons Defence Committee, *The Future of the UK's Strategic Nuclear Deterrent: the White Paper,*

> nuclear disarmament, and on a Treaty on general and complete disarmament under strict and effective international control.[32]

Therefore, on initial analysis, renewal of the SND appeared to be in contravention of the UK's obligations to the NPT. Organisations such as the Campaign for Nuclear Disarmament argued that the Government's decision was in direct conflict with the NPT, since the future system will be more capable than the current Vanguard-based SND and, as a result, must be considered re-armament.[33] Others added that the decision was hypocritical since, "on the one hand [the Government] wants to discourage proliferation of nuclear weaponry to further States and on the other is not prepared to relinquish its own capability."[34] Thus, there is some risk that the UK's recent decision could add weight to the argument of aspiring nuclear weapon states in their approach to nuclear weapons. These nations will view the UK pronouncement as justification for their own nuclear ambitions. Specifically, the lack of commitment by the UK to disarm could provide justification for a non-nuclear weapon state to leave the NPT and develop its own nuclear arsenal.

Undoubtedly, the terminology of Article VI is ambiguous: the NPT fails to define any timetable for disarmament and does not specifically prohibit the renewal of existing systems. Hence, Britain can successfully argue that retention of a 'minimum' nuclear deterrent is fully consistent with its NPT obligations. Meanwhile, the UK has made some effort to reduce its

---

[32] International Atomic Energy Agency, *Treaty On The Non-Proliferation Of Nuclear Weapons*, INFCIRC/140 dated 22 April 1970; available from http://www.iaea.org/Publications/Documents/Infcircs/Others/infcirc140.pdf; Internet; accessed 22 December 2007.

[33] Dawn Rothwell, *No Trident Replacement. No New Nuclear Weapons. No New Nuclear Arms Race,* Briefing Prepared for the Campaign for Nuclear Disarmament, 2007, 6.

[34] Dr Andrew Dorman, United Kingdom Select Committee on Defence, *Written Evidence: Memorandum from Dr Andrew Dorman*, 8 March 2006.

nuclear weapon stockpile, has ceased nuclear weapon testing and has joined several initiatives aimed specifically at global nuclear disarmament.[35] Furthermore, the Government answered claims of hypocrisy by highlighting its "excellent track record" in meeting NPT obligations.[36] Specifically, the UK now possesses the smallest stockpile amongst the existing nuclear weapon states, maintains the minimum possible deterrence capability and is the only nuclear weapon state that possesses just a single deterrent system. The Government further insisted that it remained "fully committed" to Britain's obligations under the NPT and added that the latest decision simply retained an existing capability.[37] Consequently, since the NPT does not require unilateral nuclear disarmament, but instead calls for the pursuit of negotiations in good faith, the Government's position is legitimate.

Next, examining the likelihood and impact of unilateral disarmament, the Campaign for Nuclear Disarmament asserts that the greatest contribution Britain can make to international security is to forego its SND.[38] Certainly, nations such as South Africa, Belarus and Ukraine have possessed nuclear weapons and subsequently elected to disarm. Nonetheless, experts insist

---

[35] United Kingdom, Foreign and Commonwealth Office, *The Future of the United Kingdom's Nuclear Deterrent Fact Sheet 2*; available from http://www.mod.uk/defenceinternet/aboutdefence/corporatepublications/policystrategyandplanning/hefutureoftheunitedkingdomsnucleardeterrentdefencewhitepaper2006cm6994.html; Internet; accessed 28 December 2007.

[36] United Kingdom, The Foreign and Commonwealth Office, *The Future of the United Kingdom's Nuclear Deterrent Fact Sheet 1*; available from http://www.mod.uk/defenceinternet/aboutdefence/corporatepublications/policystrategyandplanning/hefutureoftheunitedkingdomsnucleardeterrentdefencewhitepaper2006cm6994.html; Internet; accessed 28 December 2007.

[37] United Kingdom, The Foreign and Commonwealth Office, *International Priorities: Counter Proliferation*; available from http://collections.europarchive.org/tna/20080205132101/http://www.fco.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&c=Page&cid=1087554441356; Internet; accessed 28 December 2007.

[38] Dawn Rothwell, *No Trident Replacement. No New Nuclear Weapons. No New Nuclear Arms Race,* Report Prepared for the Campaign for Nuclear Disarmament (London: 2007), 9.

that if the UK did choose to disarm unilaterally, it is extremely unlikely that this would persuade other nuclear weapon states to follow: the future is simply too uncertain.[39]

The prospects for nuclear disarmament, therefore, appear bleak. United Nations (UN) Secretary-General, Kofi Annan, highlighted "there is a perception that the possession of nuclear weapons … offers the best protection [against] being attacked, [which] undermines the Treaty's integrity and authority."[40] The slow, but steady, proliferation of nuclear weapons in the last thirty years, the evident nuclear aspirations of states such as North Korea and Iran and the 'insurance value' of nuclear weapons, fundamental to Israel's foreign policy, all suggest this opinion has merit. Unfortunately, conventional wisdom suggests that such proliferation makes the world a more dangerous place. Consequently, existing nuclear weapon states are unlikely to forego their perceived national security by disarming in the face of increasing danger.[41] And even if internationally agreed disarmament were to commence, the problem of verification and the risks of cheating would prevent total multilateral disarmament from becoming a reality.[42]

Overall, while a nuclear weapon-free world remains the aspiration, independent experts agree that there are no clear indicators that this is attainable in the time-horizon identified.[43]

---

[39] United Kingdom, Minutes of Evidence Taken Before the Defence Committee on 21 March 2006, *The Future of the UK's Strategic Nuclear Deterrent: The Strategic Context,* House of Commons Publications and Records, 2006.

[40] Kofi Annan, "Nuclear Non-Proliferation Treaty Faces Crisis of Compliance, Confidence," United Nations Statement (18 May 2006); available from http://www.un.org/News/ossg/sg/stories/statments_search_full.asp?statID=29; Internet; accessed 28 December 2007.

[41] Peter Beckman, Paul Crumlish, Michael Dobkowski and Stephen Lee, *Nuclear Weapons, Nuclear States and Terrorism* (New York: Sloan Publishing, 2007), 231.

[42] George Quester, *Nuclear First Strike* (Baltimore: The Johns Hopkins University Press, 2006), 66.

Reluctance to unilaterally disarm is prevalent amongst all nuclear weapon states, not just the UK. The problem is further compounded by the fact that four nations, India, Israel, Pakistan and North Korea, refuse to sign the NPT and yet possess a nuclear weapon capability. Hence, existing NPT signatories are even more unwilling to disarm while other nuclear weapon states will not commit to reduce their nuclear stockpiles. This, in turn, strengthens the Government's argument that "conditions have not yet been met to enable the UK to give up its nuclear deterrent."[44]

Nuclear weapons cannot be 'un-invented'. Hence, when looking to a time horizon beyond 2050, it is extremely unlikely that existing nuclear weapon states will forego their nuclear deterrent at the expense of national security. Even if international relations by the key powers continue to be cordial, multi-lateral disarmament by NPT signatories fails to account for the threats posed either by non-NPT nations, or by states who might subsequently acquire nuclear weapons in the future. Current adversary nuclear weapon states are equally unlikely to relinquish their own capabilities and aspiring nuclear weapon states will have little impetus to change direction. Thus, although the Government pursues a pledge of nuclear disarmament, it is correct to maintain its deterrent while such proliferation risks remain.

---

[43] Michael Codner, Gavin Ireland, and Lee Willett, *The United Kingdom's Independent Strategic Nuclear Deterrent Observations on the 2006 White Paper and Issues for the Parliamentary Debate*, (Whitehall: The Royal United Service Institute for Defence and Security Studies, 2007), 15; available from http://www.rusi.org/research/militarysciences/capabilities/commentary; Internet; accessed 17 November 2007.

[44] United Kingdom, The Foreign and Commonwealth Office, *International Priorities: Counter Proliferation*; available from http://collections.europarchive.org/tna/20080205132101/http://www.fco.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&c=Page&cid=1087554441356; Internet; accessed 28 December 2007.

ANALYSIS OF THE THREAT

"The collapse of the Cold War has removed even the theoretical justification for our possessing strategic nuclear weapons."[45]

The spectrum of potential nuclear threats to the UK spans the entire adversary cross-section, from traditional foe armed with a declared nuclear warhead, through the collection of aspiring nuclear weapon states with ambiguous intent, to the contemporary nuclear terrorist organisation. Eight nations already possess a declared nuclear weapon capability. Five of these, the permanent members of the UN Security Council, are signatories to the NPT and thus are committed to nuclear disarmament.[46] In addition, India, Pakistan and Israel are non-signatories to the NPT. Furthermore, several 'rogue states,'[47] such as North Korea and Iran, aspire to possess, or have already developed, a limited nuclear weapon capability. Additionally, it is necessary to consider the threat of nuclear terrorism, executed by disparate, non-state actors. The SND must prove effective and relevant when measured against this range of threats if the decision to renew is to be justified.

Despite the relative cooling in political antagonism in the post-Cold War era, as recently as January 2008, Russia declared that it could still use military force, including the use of nuclear weapons, in order to defend the sovereignty of the nation.[48] When blended with the heightened

---

[45] Robin Cook, "Worse Than Irrelevant," *The Guardian*, 29 July 2005.

[46] The permanent members of the UN Security Council are the US, the UK, France, Russia and China.

[47] Coined by the US Government in the 1990s, since 11 September 2001 this term has been used by Western nations to represent states hostile to the US and its interests. Typically, such nations are accused of acts such as pursuing weapons of mass destruction or sponsoring terrorism. In this paper, the nations of Iran and North Korea will be examined under the title of 'rogue states.'

[48] British Broadcasting Corporation, "Russia Warns of Nuclear Defence," http://news.bbc.co.uk/1/hi/world/europe/7198181.stm; Internet; accessed 6 February 2008.

tensions related to the expansion of North Atlantic Treaty Organisation, and evident Russian concerns associated with US aspirations to deploy elements of its missile defence shield as far east as Ukraine, it is entirely possible that East-West relationships could sour significantly in future years. Estimates suggest that Russia currently possesses up to 16,000 warheads and, even under the terms of the Strategic Offensive Reductions Treaty, the nation will still legally possess 2,200 operationally deployed warheads by 2012.[49] Furthermore, Russia continues to modernise both its submarine and land-based nuclear arsenal.[50] As a result, while the SND was developed based upon the stable threat of the Soviet Union, the assumption that Russia should now be considered yesterday's problem is "unjustifiably optimistic"[51] and UK defence policy must account for this.

Meanwhile, the security challenges associated with the guarding and destruction of the Former Soviet Union nuclear stockpile are considerable. This has resulted in the Global Partnership, a consortium of thirteen nations whose aim is to manage the destruction and dismantlement of fissile materials and the redirection of employment of former scientists. Consequently, an additional Russian-based threat has emerged indirectly from insecure nuclear weapons, awaiting destruction or disarmament. Therefore, it appears that the danger from Russia

[49] United Kingdom, The Secretary of State for Defence and The Secretary of State for Foreign and Commonwealth Affairs, *The Future of the United Kingdom's Nuclear Deterrent* (London: The Stationary Office Limited, December 2006), 15.

[50] Specifically, the state is developing a new submarine-launched ballistic missile to complement its existing land, sea and air based systems and recently deployed the new SS-27 inter-continental ballistic missile.

[51] United Kingdom, Minutes of Evidence Taken Before the Defence Committee on 21 March 2006, *The Future of the UK's Strategic Nuclear Deterrent: The Strategic Context,* House of Commons Publications and Records, 2006.

is twofold: deterioration in current East-West relations, or the more sinister threat of insecure nuclear weapons. Both scenarios remain relevant to the UK's defence policy.

Focusing now on non-NPT signatories, the nuclear weapon states most worthy of consideration are India and Pakistan. Both have been enthusiastic developers of nuclear weapons for more than thirty years.[56] However, the purpose of each state's nuclear stockpile is specifically to deter its opposite, representing classic bipolar deterrence theory.[57] As a result, it is extremely unlikely that either state possesses the capability or intent to target the UK. Of greater concern, however, is regional instability and the security of nuclear weapons and technologies, particularly associated with Pakistan.[58] Although officials from both nations have repeatedly reassured the international community that their respective nuclear assets are safe, this has not prevented the head of the International Atomic Energy Agency, Mohammed El Baradei, expressing concern that nuclear weapons could fall into the hands of extremist groups in Pakistan.[59] Additionally, in January 2004, Pakistani nuclear scientist Abdul Khan confessed to playing a part in a clandestine international network of nuclear weapons technology proliferation for several nations, including Iran and North Korea.[60] Consequently, this knowledge proliferation, when combined with potentially insecure nuclear stockpiles, represents a significant threat to global security.

---

[56] Lisa A Curtis, "Keeping Pakistan's Nuclear Weapons Out of the Hands of Terrorists," *Heritage Lectures,* no. 1043 (18 September 2007): 2.

[57] *Ibid.,* 2.

[58] Salman Masood, "Nuclear Weapons Are Secure, A Top Pakistani Official Says," *International Herald Tribune,* 26 January 2008.

[59] *Ibid.*

[60] British Broadcasting Corporation, "Profile: Abdul Qadeer Khan," http://news.bbc.co.uk/1/hi/world/south_asia/3343621.stm; Internet; accessed 27 January 2008.

Both North Korea and Iran have made obvious their nuclear weapon aspirations. In 2002, shortly after US President Bush condemned North Korea as part of an "axis of evil,"[61] it withdrew from the NPT. The state then denounced its former agreements to keep the Korean peninsula free of nuclear weapons, announcing in October 2003 that it possessed six nuclear weapons.[62] Relations between the US and North Korea were further strained in October 2006, when the latter claimed to have carried out its first nuclear test, just one year after agreeing to abandon its nuclear weapon program.[63] Despite improving US–North Korea relations in recent months, the Asian state's relationship with the West remains tenuous at best.

Iran has demonstrated an equally inconsistent approach in declaring its nuclear weapon aspirations. The Iranian government, despite regular engagement by the UN, has refused to cease enrichment of uranium, insisting that it must develop nuclear energy to serve the needs of its growing population.[64] Although recent assessments have proven inconclusive regarding Iran's pursuit of a nuclear weapon programme, the UN Security Council has once again adopted a new round of economic sanctions, concerned that the nuclear technologies Iran is developing could be used for military purpose. [65]

---

[61] George Bush, "The President's State of the Union Address delivered 29 January 2002," http://www.whitehouse.gov/news/releases/2002/01/20020129-11.html; Internet; accessed 10 February 2008.

[62] Peter Beckman, Paul Crumlish, Michael Dobkowski and Stephen Lee, *Nuclear Weapons, Nuclear States and Terrorism* (New York: Sloan Publishing, 2007), 203.

[63] The Guardian, "North Korea and Nuclear Weapons 1991-2007," http://www.guardian.co.uk/korea/subsectionmenu/0,,854619,00.html; Internet; accessed 15 March 2008.

[64] Peter Beckman, Paul Crumlish, Michael Dobkowski and Stephen Lee, *Nuclear Weapons, Nuclear States and Terrorism* (New York: Sloan Publishing, 2007), 206.

[65] United Nations, *United Nations Resolution 1803*, 3 March 2008; available from http://www.un.org/Docs/sc/unsc_resolutions.html; Internet; accessed 19 March 2008.

Even though the UK is unlikely to be a specific target of either North Korea or Iran, each country's nuclear ambitions remain confusing. These States continue to use nuclear weapons as a negotiating tool on the world stage and, although British involvement is more limited when compared to the US, as one of the Superpower's closest military allies, either nation may develop the intent and capability to strike at the UK or its interests. Thus, such regimes, on the brink of nuclear weapon ownership, must be considered in developing Britain's defence policy.

Finally, non-state actors or terrorists could acquire nuclear weapons and threaten global security. Indeed, the 2003 British Defence White Paper identifies international terrorism, as one of three primary threats to the UK's national security.[66] As highlighted earlier, global concerns exist regarding both the security of nuclear stockpiles and the spread of relevant knowledge and technologies. While there is no evidence to suggest that an international terrorist body has yet acquired nuclear weapons, there is evidence to suggest that organizations such as Al Qaeda have attempted to do so.[67] In cases where terrorists enjoy state-sponsorship, these asymmetric threats can still be deterred. Nevertheless, to be successful, a deterrent must be complemented by the non-proliferation measures associated with the NPT, careful supervision of existing, redundant nuclear materials and appropriate management of the technologies and expertise required to build a nuclear device. Thus, the UK must consider all of these aspects in order to effectively guard against the threat of nuclear terrorism by a non-state actor.

---

[66] Claire Taylor, *Research Paper 04/71 -The Defence White Paper* (London: House of Commons Library, 17 September 2004), 3.

[67] United Kingdom, The Parliamentary Office of Science and Technology, *Postnote Number 179: Nuclear Terrorism* (London: Parliamentary Copyright, July 2002), 1.

The spectrum of nuclear, global threats that the UK might face before 2050 is wide-ranging. Traditional bipolar nuclear deterrence has given way to a broader assortment of indeterminate, global dangers. Just as no one could have imagined the developments that would occur in the early decades of the 20th Century, the 21st Century has begun under a comparable cloud of uncertainty.[68] Consequently, the ambiguity of the future strategic environment establishes a requirement to be prepared to face a variety of adversaries and scenarios. Since the majority of these potential threats to the UK remain deterrable, via either conventional or nuclear means, it is evident that considerations of national security played a crucial role in Britain's decision to renew its SND.

CONSIDERATIONS OF PRESTIGE AND STATUS

"Gone are the days of the empire, gone is the vainglorious strutting the world, seen as a military and nuclear power."[69]

A noteworthy factor in the UK's original purpose in acquiring nuclear weapons was its declining influence in the world. As a nuclear weapon state, Britain could maintain its 'bully-power' against the Empire's remaining colonies.[70] This 'prestige effect' was evident in a succession of UK governments in the post-War years, and was made most obvious in 1958, when Prime Minister Harold Macmillan stated, "the independent contribution … gives us a better

---

[68] Tim Youngs and Claire Taylor, *Trident and the Future of the British Nuclear Deterrent,* Report Prepared for International Affairs and Defence Section (London: House of Commons Library, 2006), 16; available from http://www.acronym.org.uk/docs/0604/hoc_lib.pdf; Internet; accessed 27 December 2007.

[69] John McDonnel (Hayes and Harlington) (Lab), United Kingdom House of Commons Debates, 14 March 2007. Archive on-line; available from http://www.publications.parliament.uk/pa/cm200607/cmhansrd/cm070314/debtext/70314-0015.htm; Internet; accessed 22 December 2007.

[70] David Krieger, "Why Nations Go Nuclear," *Nuclear Age Peace Foundation*, (November 2005); available from http://www.wagingpeace.org/articles/2005/11/00_krieger-why-nations-go-nuclear.htm; Internet; accessed 28 December 2007.

position in the world … it puts us where we ought to be, in the position of a Great Power."[71] Internationally, evidence of nuclear status was manifest when French President De Gaulle commented that a great state, which does not have nuclear weapons when others do, "does not command its own destiny."[72] Thus, historically the association between nuclear weapons and status in the international arena was clear.

Does this correlation remain true in the 21st Century? If so, did this influence the UK's decision regarding the SND? Some propose that prestige was the Government's *only* reason in electing to maintain its nuclear weapons.[73] Others argue that, if the UK did not already possess nuclear weapons, "it is inconceivable that any UK government would seriously contemplate [their] acquisition."[74] This suggests that threats to national security are no longer sufficient to justify a nuclear deterrent and hence should have had little influence on the resolution to renew the SND, adding strength to the argument that status was a factor in the decision. In contrast, the Government specifically and consistently denies the prestige argument, instead insisting that the UK maintains the SND simply to deter acts of aggression against vital interests.[75]

---

[71] Harold Macmillan quoted in Thomas Graham Jr, "Avoiding the Tipping Point," *Arms Control Today* (November 2004); available from http://www.armscontrol.org/act/2004_11/BookReview.asp; Internet; accessed 15 January 2008.

[72] President Charles de Gaulle quoted in Thomas Graham Jr, "Avoiding the Tipping Point," *Arms Control Today* (November 2004); available from http://www.armscontrol.org/act/2004_11/BookReview.asp; Internet; accessed 15 January 2008.

[73] Editorial, "Blair's Nuclear Proliferation," *Socialism Today* 107 (March 07), http://www.socialismtoday.org/107/trident.html; Internet; accessed 27 January 2008..

[74] "The High Price Of Nuclear Prestige," *Financial Times*, December 5, 2006, http://www.proquest.com/ (accessed March 9, 2008).

[75] United Kingdom, The Secretary of State for Defence and The Secretary of State for Foreign and Commonwealth Affairs, *The Future of the United Kingdom's Nuclear Deterrent* (London: The Stationary Office Limited, December 2006), 20.

Undoubtedly, it would be difficult for the Government to argue publicly that status and prestige were significant factors in renewing the SND. Nevertheless, there are some compelling arguments to suggest that this was, in fact, the case. For example, some suggested that national pride influenced the nuclear decision.[76] More specifically, Britain and its public could not accept France as the only nuclear weapon state in Europe, given the impact that this might have regarding each nation's influence in international affairs and national status.

Perhaps an even more convincing argument is the effect that unilateral disarmament would have on Britain's military strategy and security policy. International influence remains a fundamental principle of British military strategy and security policy.[77] If the UK had elected to disarm, experts suggest that this would have questioned the nation's requirement for nuclear powered aircraft carriers, nuclear powered submarines or even significant expeditionary military forces.[78] Disposal of such assets would send a clear message regarding Britain's future intent and direction. Together, these measures could significantly affect the UK's authority on the world stage, leading the nation to adopt middle-rank status in Europe, rather than its current prominent global standing.

---

[76] United Kingdom, Select Committee on Defence Eighth Report, *The Strategic Nuclear Deterrent and the UK's International Influence* (London: House of Commons Publications and Records), 2006.

[77] Michael Codner, Gavin Ireland, and Lee Willett, The United Kingdom's Independent Strategic Nuclear Deterrent Observations on the 2006 White Paper and Issues for the Parliamentary Debate (Whitehall: The Royal United Service Institute for Defence and Security Studies, 2007), 12; available from http://www.rusi.org/research/militarysciences/capabilities/commentary; Internet; accessed 17 November 2007.

[78] *Ibid*., 12.

An alternative indicator of prestige is permanent membership of the UN Security Council. Often assumed to go 'hand-in-glove' with the original nuclear weapon states, some feared unilateral disarmament could influence the UK's position within this governing body.[79] However, there is no requirement for permanent members of the Security Council to be nuclear weapon states.[80] Indeed, permanent membership was allocated at the time of the UN's founding in 1945, well before four of the five had acquired a nuclear capability. Equally, nothing exists in the constitution of the UN to suggest that the UK would now lose its seat as a permanent member if it were to forego the SND. In isolation, politics and influence at the end of World War Two defined membership of the Security Council. Nuclear weapon status remains equally irrelevant in the 21st Century.

One final argument that suggests prestige played a part in the Government's decision to renew the SND relates to Britain's relationship and dependence upon the US. Currently, the SND relies upon dependent technology, but independent policy. There is compelling reason to suggest that the US could provide the UK's nuclear umbrella. Former UK Defence Secretary, Michael Portillo, suggested that Britain would be a significantly more useful ally for the US if we did not spend money renewing the nuclear deterrent.[81] However, while the financial cost of renewing the SND, estimated at £20 billion,[82] could indeed be spent on improving or increasing

---

[79] United Kingdom, Select Committee on Defence Eighth Report, *The Strategic Nuclear Deterrent and the UK's International Influence* (London: House of Commons Publications and Records, 2006).

[80] *Ibid*.

[81] Michael Portillo, "Does Britain Need Nuclear Weapons? No. Scrap Them*," The Sunday Times,* 19 June 2005.

[82] United Kingdom, The Secretary of State for Defence and The Secretary of State for Foreign and Commonwealth Affairs, *The Future of the United Kingdom's Nuclear Deterrent* (London: The Stationary Office Limited, December 2006), 7.

conventional military capability, this would not provide for the independent aspects of the SND that the Government insist are core to UK nuclear weapon policy.[83] Nevertheless, Trident currently relies upon robust US support for elements of system acquisition and maintenance and assumes that this support will be constant in the future. If the trans-Atlantic alliance is so secure, it suggests that Britain may not require an independent deterrent for purposes of national security. This, in turn adds strength to the argument that suggests considerations of international status provided influence.[84]

The pedigree of the British Empire remains within living memory. Combined with elevated status by dint of its military capabilities, a permanent position on the UN Security Council and a 'special' Trans-Atlantic relationship enjoyed since the end of World War Two, it is evident that the UK still enjoys a position of global influence on the world stage. It is less obvious whether the desire to maintain this exalted standing influenced the decision to renew the SND. Ultimately, even the UK Parliament's Select Committee on Defence could come to no specific conclusion regarding possession of a SND and the prestige.[85] The Committee asserted that, while unlikely to be the sole reason for renewing the SND:

> The diplomatic cost to Britain of abandoning her nuclear weapons would be very considerable and the case for Britain maintaining her position [in the world] would become very much more difficult if she does abandon her nuclear weapons.[86]

---

[83] *Ibid*., 18.

[84] Michael Codner, Gavin Ireland, and Lee Willett, *The United Kingdom's Independent Strategic Nuclear Deterrent Observations on the 2006 White Paper and Issues for the Parliamentary Debate* (Whitehall: The Royal United Service Institute for Defence and Security Studies, 2007), 11; available from http://www.rusi.org/research/militarysciences/capabilities/commentary; Internet; accessed 17 November 2007.

[85] United Kingdom, Minutes of Evidence Taken Before the Defence Committee on 21 March 2006, *The Future of the UK's Strategic Nuclear Deterrent: The Strategic Context* (House of Commons Publications and Records, 2006).

[86] *Ibid.*

Thus, despite Government argument to the contrary, considerations of prestige and status are likely to have had some influence on the decision to renew the SND.

CONCLUSION

"The onset of armed conflict is inherently unpredictable."[87]

While the original purpose behind the UK's SND was clear, the end of the Cold War questioned the rationale in maintaining nuclear weapons in the UK's inventory. Nevertheless, from a theoretical perspective, the deterrence concepts devised in the bipolar world still hold credence in many contemporary scenarios. When measured against Britain's international obligation, despite renewing its existing capability, the UK has decreased its nuclear stockpile significantly in recent years and has thus acted within the spirit of the NPT. Nevertheless, the decision to renew the SND does little to curb aspiring nuclear weapon states from pursuing their own ambitions. This, in turn, increases the likelihood of further proliferation in forthcoming years. Since the UK is unlikely to forego its own nuclear weapon capabilities in light of such proliferation, disarmament is currently an unrealistic aspiration.

The resulting range of potential threats to the UK is considerable. In addition to 'traditional' adversaries, the slow global proliferation of nuclear weapons, the inconsistent rhetoric of current 'rogue states' and the unpredictability of the future are fundamental considerations when assessing potential threats. Nevertheless, nuclear terrorism constitutes the

[87] Julian Lewis, "Nuclear Disarmament Versus Peace in the Twenty-First Century," *International Affairs* 82, no. 4 (2006): 670.

greatest risk. Here, justification for the SND is more tenuous, since nuclear reprisals do not deter irrational actors. Nevertheless, aspiring nuclear terrorist organisations typically require state-sponsorship and thus, even when considering this threat, the SND retains some relevance.

Historically, in the context of declining world status, the SND contributed to Britain's global influence. Today, the broader aspects of prestige associated with possession of nuclear weapons still remain a factor. If the UK elected to forego its SND, this would influence the nation's long established foreign and military policy, in turn, consigning the UK to middle-rank status within Europe. Although Britain's membership of the UN Security Council would be unaffected, it could influence the close US-UK relationship established more than sixty years ago. Nevertheless, reasons of status alone do not justify nuclear weapons in the 21st Century. History has proven that the onset of armed conflict is inherently unpredictable and so the UK must maintain a capability to counter the span of aggression that it might face:

> There can be no more assurance that a nuclear … threat will not arise in the next half century than that major land, sea or air threats will not have to be faced. If it is right to insure against the latter, it is essential to insure against the former.[88]

The decision to renew the SND gives the UK a nuclear weapon capability, lasting beyond 2050. Measured against the vast spectrum of potential threats in an uncertain future, this decision is justified and correct. Prestige and power are relevant motives, but precaution and protection provide true purpose.

---

[88] *Ibid*.

BIBLIOGRAPHY

Annan, Kofi. "Nuclear Non-Proliferation Treaty Faces Crisis of Compliance, Confidence." United Nations Statement (18 May 2006); available from http://www.un.org/News/ossg/sg/stories/statments_search_full.asp?statID=29; Internet; accessed 28 December 2007.

Bevin, Ernest. Quoted in "The History of the British Nuclear Deterrent." *Daily Telegraph,* 5 December 2006; available from http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2006/12/04/utimeline104.xml; Internet; accessed 8 January 2008.

British Broadcasting Corporation. "Are Pakistan's Nuclear Weapons Safe?" http://news.bbc.co.uk/1/hi/world/south_asia/7190033.stm; Internet; accessed 27 January 2008.

British Broadcasting Corporation. "Profile: Abdul Qadeer Khan." http://news.bbc.co.uk/1/hi/world/south_asia/3343621.stm; Internet; accessed 27 January 2008.

British Broadcasting Corporation. "Key Quotes: On Trident." http://news.bbc.co.uk/1/hi/uk_politics/6450253.stm; Internet; accessed 27 January 2008.

British Broadcasting Corporation. "Is This End of Trident Debate?" http://news.bbc.co.uk/1/hi/uk_politics/6451615.stm; Internet; accessed 6 January 2008.

British Broadcasting Corporation. "Russia Warns of Nuclear Defence." http://news.bbc.co.uk/1/hi/world/europe/7198181.stm; Internet; accessed 6 February 2008.

Beckman, Peter, Paul Crumlish, Michael Dobkowski, and Stephen Lee. *Nuclear Weapons, Nuclear States and Terrorism*. New York: Sloan Publishing, 2007.

Beckman, Peter, Paul Crumlish, Michael Dobkowski, and Stephen Lee. *The Nuclear Predicament: Nuclear Weapons in the Twenty-First Century*. Edited by Nancy Roberts. New Jersey: Prentice-Hall Inc, 2000.

Campaign for Nuclear Disarmament. *The Cost of British Nuclear Weapons*. Briefing on-line; available from http://www.cnduk.org/images/stories/briefings/trident/cost_british_nweapons_07.pdf; Internet; accessed 22 December 2007.

Canadian Pugwash. *Canadian Pugwash Calls for NATO to Denuclearize*. Briefing on-line; available from http://www.pugwashgroup.ca/events/documents/2007/2007.06.07-NATO_brief.pdf; Internet; accessed 12 January 2008.

Codner, Michael, Gavin Ireland, and Lee Willett. *The United Kingdom's Independent Strategic Nuclear Deterrent - Observations on the 2006 White Paper and Issues for the Parliamentary Debate*. Whitehall: The Royal United Service Institute for Defence and Security Studies, 2007; available from http://www.rusi.org/research/militarysciences/capabilities/commentary; Internet; accessed 17 November 2007.

Cook, Robin. "Worse Than Irrelevant." *The Guardian*, 29 July 2005.

Cowan-Karp, Regina. *Security With Nuclear Weapons?: Different Perspectives on National Security*. Stockholm: Oxford University Press, 1991.

Craig, Major Ken. "The Nuclear Non-Proliferation Treaty: Achieving International Security through Diplomacy." *Canadian Military Journal* 8, no. 1 (Spring 2007, 2007): 43 - 52.

Curtis, Lisa A. "Keeping Pakistan's Nuclear Weapons Out of the Hands of Terrorists." *Heritage Lectures,* no. 1043 (18 September 2007).

Editorial. "Blair's Nuclear Proliferation." *Socialism Today* 107 (March 07). http://www.socialismtoday.org/107/trident.html; Internet; accessed 27 January 2008.

Editorial. "A New Trident Makes No Military Sense." *New Statesman* 134, no. 4765 (7 November 2005, 2005): 6-7.

Editorial. "The High Price Of Nuclear Prestige." *Financial Times*, 5 December 2006; http://www.proquest.com; Internet; accessed March 9, 2008.

Graham Jr, Thomas. "Avoiding the Tipping Point." *Arms Control Today* (November 2004); available from http://www.armscontrol.org/act/2004_11/BookReview.asp; Internet; accessed 15 January 2008.

Gray, Colin S. *Another Bloody Century*. Great Britain: The Orion Publishing Group, 2005.

Howlett, Darryl, Tanya Ogilvie-White, John Simpson and Emily Taylor. *Nuclear Weapons Policy at the Crossroads.* London: Royal Institute of International Affairs, 2000.

Hudson, Kate and Jeremy Corbyn MP. *A Response to the PLP Brief: 'Maintaining the UK's Nuclear Deterrent* 2007. Briefing on-line; available from; http://www.cnduk.org/images/stories/briefings/trident/plp_response_07.pdf; Internet; accessed 22 December 2007.

International Atomic Energy Agency. *Treaty On The Non-Proliferation Of Nuclear Weapons*. INFCIRC/140 dated 22 April 1970. Available from; http://www.iaea.org/Publications/Documents/Infcircs/Others/infcirc140.pdf; Internet; accessed 22 December 2007.

Johnson, Rebecca, Nicola Butler, and Stephen Pullinger. *Worse than Irrelevant? British Nuclear Weapons in the 21st Century*. London: Acronym Institute for Disarmament Diplomacy, 2006.

Lewis, Julian. "Nuclear Disarmament Versus Peace in the Twenty-First Century." *International Affairs* 82, no. 4 (2006).

Masood, Salman. "Nuclear Weapons Are Secure, A Top Pakistani Official Says." *International Herald Tribune,* 26 January 2008.

Morgan, Patrick. *Deterrence Now*. Edited by Steve Smith. United Kingdom: Cambridge University Press, 2003.

Nuclear Threat Initiative. "China's Nuclear Doctrine." http://www.nti.org/db/china/doctrine.htm; Internet; accessed 27 December 2007.

Quester, George. *Nuclear First Strike*. Baltimore: The Johns Hopkins University Press, 2006.

Portillo, Michael. "Does Britain Need Nuclear Weapons? No. Scrap Them." *The Sunday Times,* 19 June 2005.

Rothwell, Dawn. *No Trident Replacement. No New Nuclear Weapons. No New Nuclear Arms Race.* Report Prepared for the Campaign for Nuclear Disarmament, 2007.

Sands, Phillipe and Helen Law. *The United Kingdom's Nuclear Deterrent: Current and Future Issues of Legality.* Report Prepared for Greenpeace. http://www.greenpeace.org.uk/MultimediaFiles/Live/FullReport/8072.pdf ; Internet; accessed 5 January 2008.

Schofield, Steven. *Trident and Employment*. London: Campaign for Nuclear Disarmament, 2007.

Taylor, Claire. *Research Paper 04/71 -The Defence White Paper*. London: House of Commons Library, 17 September 2004.

The Guardian. "North Korea and Nuclear Weapons 1991-2007." http://www.guardian.co.uk/korea/subsectionmenu/0,,854619,00.html; Internet; accessed 15 March 2008.

United Kingdom. House of Commons Defence Committee. *The Future of the UK's Strategic Nuclear Deterrent: the White Paper.* London: The Stationery Office Limited, March 2007.

United Kingdom. The Secretary of State for Defence and The Secretary of State for Foreign and Commonwealth Affairs. *The Future of the United Kingdom's Nuclear Deterrent.* London: The Stationary Office Limited, December 2006.

United Kingdom. The Foreign and Commonwealth Office. *The Future of the United Kingdom's Nuclear Deterrent Fact Sheet 1 – 5*; available from http://www.mod.uk/defenceinternet/aboutdefence/corporatepublications/policystrategyandplanning/hefutureoftheunitedkingdomsnucleardeterrentdefencewhitepaper2006cm6994.html; Internet; accessed 28 December 2007.

United Kingdom. The Foreign and Commonwealth Office. *International Priorities: Counter Proliferation*; available from http://collections.europarchive.org/tna/20080205132101/http://www.fco.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&c=Page&cid=1087554441356; Internet; accessed 28 December 2007.

United Kingdom. House of Commons Debate, 14 March 2007. Archive on-line; available from http://www.publications.parliament.uk/pa/cm200607/cmhansrd/cm070314/debtext/70314-0009.htm; Internet; accessed 22 December 2007.

United Kingdom. Select Committee on Defence Eighth Report. *The Strategic Nuclear Deterrent and the UK's International Influence.* House of Commons Publications and Records, 2006.

United Kingdom. Select Committee on Defence: *Written Evidence: Memorandum from Dr Andrew Dorman*, *8 March 2006;* available from http://www.publications.parliament.uk/pa/cm200506/cmselect/cmdfence/986/986we14.htm; Internet; accessed 28 December 2007.

United Kingdom. Minutes of Evidence Taken Before the Defence Committee on 21 March 2006. *The Future of the UK's Strategic Nuclear Deterrent: The Strategic Context.* House of Commons Publications and Records, 2006.

United Kingdom. The Parliamentary Office of Science and Technology. *Postnote Number 179: Nuclear Terrorism.* Parliamentary Copyright, July 2002.

United Nations. *United Nations Resolution 1803.* New York, 3 March 2008; available from http://www.un.org/Docs/sc/unsc_resolutions.html; Internet; accessed 19 March 2008.

United States. Atomic Energy Commission. *Atomic Energy Act 1946*. Washington, DC: US Government Printing Office, 1965; available from http://www.osti.gov/atomicenergyact.pdf; Internet; accessed 13 January 2008.

United States. "The President's State of the Union Address delivered 29 January 2002." http://www.whitehouse.gov/news/releases/2002/01/20020129-11.html; Internet; accessed 10 February 2008.

United States. Department of Defence. *Dictionary of Military Terms*; available from http://www.dtic.mil/doctrine/jel/doddict/data/d/01667.html; Internet; accessed 7 January 2008.

United States. Office of the Secretary of Defence, *Military Power of the People's Republic of China 2007* [report on-line]; available from http://www.defenselink.mil/pubs/pdfs/070523-China-Military-Power-final.pdf; Internet; accessed 8 February 2008.

Waltz, Kenneth N. "Nuclear Myths and Political Realities." *The American Political Science Review* 84, no.3 (September 1990): 731-745.

Youngs, Tim and Claire Taylor. *Trident and the Future of the British Nuclear Deterrent.* Report Prepared for International Affairs and Defence Section. London: House of Commons Library, 2006; available from http://www.acronym.org.uk/docs/0604/hoc_lib.pdf; Internet; accessed 27 December 2007.