Part III

Nuclear Policies of France and the UK

The "Forward Leaning" Nuclear State: The UK and Nuclear Weapons in an Era of Strategic Uncertainties

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Introduction

In December 2006, the United Kingdom government published a White Paper on the future of its nuclear deterrent [2]. This was endorsed by its House of Commons in March 2007, the first time such a sensitive military procurement decision had been placed before it [3]. The White Paper made the case for constructing a fleet of replacement Trident missile-equipped submarines to come into service in the early 2020s, and offered a transparent vision of the UK's strategic nuclear future. It was followed by an equally innovative set of activities aimed at setting out a strategic vision for nuclear disarmament. The immediate aim of these initiatives, which for many non-nuclear weapon states placed the UK in the category of a "forward leaning" nuclear power, was to facilitate a political strengthening of the global nuclear non-proliferation regime by enhancing the prospects for a "successful" NPT Review Conference in May 2010 [4]. This dual-track strategy is one which has been consistently pursued by British governments since the 1950s. One track has been to deploy nuclear weapons and credible delivery systems and to obtain them through close collaboration with the United States, while retaining national physical control over their possible use, the second to seek to use the political position this generates to move the multilateral nuclear disarmament agenda forward.

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1 The analyses and ideas contained in this paper are those of the author alone.

2 "The Future of the United Kingdom's Nuclear Deterrent, Cm 6994," Presented to Parliament by The Secretary of State for Defence and the Secretary of State for Foreign and Commonwealth Affairs by Command of Her Majesty, December 2006, <http://www.mod.uk/NR/rdonlyres/AC00DD79-76D6-4FE3-91A1-6A56B03C092F/0/DefenceWhitePaper2006_Cm6994.pdf>.

3 "Trident plan wins Commons support," BBC News, 15 March 2007, <http://news.bbc.co.uk/1/hi/uk_politics/6448173.stm>.

4 These culminated in "The Path to 2010: Addressing the nuclear question in the twenty first century, Cm 7675," July 2009, <http://www.cabinetoffice.gov.uk/reports/roadto2010.aspx>.

The UK's Nuclear Weapons: Past Legacies and Current Situation

The UK's current nuclear weapon posture is one which is firmly based in history: if the UK did not already have nuclear weapons, it would not now be seeking to acquire them. Its origins can be traced back to at least 1940, when work in its University laboratories on nuclear energy started to be integrated with the possible military uses of radioactive gasses to produce 'a radioactive "super-bomb"'. The resulting Frisch-Peierls Memorandum in March 1940 and the Maud Reports of July 1941 for the first time suggested practical ways of using nuclear fission for explosive and area denial purposes. Wartime exigencies meant that their realisation was left to the United States Manhattan Project, with UK engineers and chemical explosive experts playing a subordinate role[5]. The bilateral US – UK agreements of this period recognised that elements of this technology would be dual use, and much of the friction they experienced arose from the attractive prospects offered by its civil exploitation. And as a recent article has argued, the decision to use the bombs dropped on Nagasaki and Hiroshima was a joint decision, even though Churchill may not have been fully aware of the nature and potential of the weapon whose creation he had facilitated[6].

As the midwife of the bomb, the UK expected to continue to collaborate with the US over the military uses of nuclear energy after the end of hostilities in 1945. However, in 1946 the US Congress passed its first Atomic Energy Act which ended their joint project[7]. In its place the UK moved ahead with an independent nuclear research programme, with delivery of fission weapons to the RAF starting in November 1953 and deployment of a delivery capability in 1956. Thermonuclear weapon development started in mid-1954 and by the spring of 1958 the UK had acquired the knowledge to make effective two-stage megaton yield weapons, though not yet the capacity to do so on an industrial scale[8].

The shock of the Sputnik launch in October 1957 led the US Congress to concede the value of re-establishing nuclear weapon collaboration with the UK. By August 1958, the 1954 US Nuclear Energy Act had been amended to allow information

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5 Margaret Gowing, *Britain and Atomic Energy, 1939–1945* (London: Macmillan 1964).

6 Jacques E. C. Hymans, "Britain and Hiroshima," *Journal of Strategic Studies*, vol. 35, no. 5 (October 2009), pp. 769–797.

7 Margaret Gowing, *Independence and Deterrence: Britain and Atomic Energy 1945–1952*, *Volume 1, Policy Making* (London: Macmillan, 1974).

8 Lorna Arnold, *Britain and the H-Bomb* (Basingstoke: Palgrave, 2001).

exchanges on each state's nuclear weapon designs and trading in nuclear weapon materials and nuclear submarine reactors — but not the purchase of complete US nuclear weapons by the UK. Instead, bilateral arrangements were made for the UK to have access to US nuclear bombs and missile warheads in the event of a European war through what was known as the Project E. They were to be stored in the UK under US custody to conform to its congressional legislation, and only released to the RAF if war started[9]. Complete US nuclear weapons had been in stockpiles at USAF bases in the UK since 1952. Their use in the event of war was subject to informal arrangements for consultations with the host state if time and circumstances allowed. One motive for these arrangements was a UK desire to permanently commit the US to the defence of Western Europe against aggression from the USSR by making a nuclear attack on the UK by the USSR also an attack on the US capability to retaliate against an attack on its homeland: a "common defence", as well as the first case of the US engaging in "extended nuclear deterrence".

Although the UK decided in November 1958 to copy the US B-28 thermonuclear design for its own use (its Red Snow warhead), the two countries differing chemical explosive standards, among other things, led to this process proving far from easy technically, and less than satisfactory in its outcome. As a result all UK weapons since the early 1960s have been UK- only designs, especially their primary trigger devices, albeit after accessing data on comparable US types[10]. The UK manufactured B-28 copies were in service by 1961, and this in turn led to US concerns about the UK taking independent action without consulting the US, though bilateral arrangements had existed since 1958 on the joint targeting of both states' strategic and tactical nuclear forces in the event of an all-out nuclear war. Also, UK fission weapons had been deployed since 1961 outside of Europe in Cyprus, Malaya and on its aircraft carriers[11]. As there was no formal agreement on the UK consulting the US before use, this was a major US political objective in the negotiations that took place in December 1962 for the UK to purchase the Polaris missile from the US for deployment before the end of the decade.

One consequence of this purchase arranged through the 1962 Nassau Agreement

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[9] Jenifer Mackby and Paul Cornish, eds., *US–UK Nuclear Cooperation after 50 Years* (Washington: Center for Strategic and International Studies, 2008).

[10] Richard Moore, "British Nuclear Warheads Design 1958–66: How Much American help?," *Defence Studies*, vol. 4, no. 2 (Summer 2004).

[11] Richard Moore, *Nuclear Illusion, Nuclear Reality: Britain, the United States and Nuclear Weapons, 1958–1964* (Basingstoke: Palgrave, 2010).

and the 1963 Polaris Sales Agreement was that when operational these missiles were to be assigned in peacetime for use by the American NATO Supreme Allied Commander, Europe (SACEUR), with the proviso that they could be used for UK purposes in a supreme national emergency. However, when negotiations on detailed arrangements started in 1966, it was realised that the submarines would have to be assigned to the Supreme Allied Commander, Atlantic (SACLANT), rather than SACEUR, as the latter had no authority over NATO naval forces and areas. The result was that orders for use for the missiles had to be transmitted by SACEUR to SACLANT's regional deputy — who was a UK naval officer, and who would consult his head of state before implementing them. These arrangements have broadly continued in effect to this day.

During the last thirty years of the Cold War, an issue of overwhelming strategic concern to the UK, though not necessarily the US, was the USSR's deployment of missile defences. The small UK strategic force operating independently was always going to be more vulnerable to such defences than the larger US force which could always rely on its larger number of warheads (i.e. saturation) to overcome the defences (though this would not have applied to the UK force operating in a NATO role). This led to a decision in 1975 to develop and deploy a new UK "front end" for the Polaris missile, code-named Chevaline, which was designed to overcome these missile defences by the deployment of decoys, cloaking measures and penetration aids [12].

Looking to the longer term, the UK took the decision in 1980 to acquire a new generation of missile submarines for deployment in the 1990s equipped with the MIRVed US Trident II missile. Its higher re-entry trajectory and thus speed, and its larger number of warheads, insured the UK against concerns over vulnerability of its force to missile defences. With the end of the Cold War this policy driver receded in significance, though it still caused the UK to prematurely retire its four Polaris submarines in the mid-1990s following operation deployment of a new USSR/Russian missile defence system around Moscow [13]. One lesson learned by the RN from this experience however, was that if possible the UK should always keep its delivery technology in step with that of the US, even though this might conflict to

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[12] Frank Panton, "Polaris Improvements and the Chevaline System, 1967–1975/6," in *Prospero (Proceedings from the British Rocket Oral History Conferences at Charterhouse)*, no. 1, Spring 2004.
[13] Peter Jones, "Overview of the History of UK Strategic Weapons," in *History of the UK Strategic Deterrent*, Conference Proceedings, London: Royal Aeronautical Society, March 1999.

some extent with the political driver of it possessing a minimum deterrent.

From the mid-1950s, the UK regarded its strategic nuclear weapons as a deterrent, and possibly war-ending, capability not a war-fighting force, though for political reasons it had been prepared to provide forces to participate in NATO's deployment of battlefield nuclear weapons for forward defence in West Germany. If battlefield nuclear war had started, the strategic force was seen as a lever to bring it to an end rapidly. As a result, from 1991 onwards the UK swiftly accepted the repatriation of those US nuclear weapons stored in the UK and Germany for use by British air, anti-submarine and ground forces and also eliminated its own WE177A naval weapons and WE177B large-yield gravity bombs. In 1998 the UK removed its remaining ageing WE177 A and C gravity bombs from deployment as part of its Strategic Defence Review [14], leaving it with only the Trident force to operate in both a NATO sub-strategic and strategic role, as well as its own independent national one, while at the 2000 NPT review Conference the UK, together with the other NPT nuclear weapon states, confirmed that it would de-target its existing missiles.

This latter decision appeared to supersede, at least at the political level, UK criteria that had existed since the 1960s for assessing the necessary capabilities to deploy a credible nuclear deterrent: its contribution to NATO deterrence as a "second center of NATO nuclear decisions," and at the national level the "Moscow Criterion" (the ability under all circumstances to guarantee the destruction key targets in and around the Soviet capital and areas down-range of it). As a consequence, the absence of any overt targeting criteria led to the sizing and composition of the UK's current and future deterrent force becoming the subject of considerable debate. However, it has also made more credible arguments for the continuation of the Trident missile force, rather than changing to a cruise-missile one, as only the former would have (in theory at least) a "global reach" in a world where the states who may need to be deterred are uncertain (e.g. to be able to hit targets in East Asia from deployment areas in the Eastern Atlantic).

In the December 2006 White Paper [15], which argued the case for work to start on a fleet of new submarines to carry US Trident missiles and their successors, the UK dispensed with the sub-strategic role altogether, and argued that its nuclear capabilities were for strategic deterrent purposes only (i.e. preventing nuclear use

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[14] Ministry of Defence, *The Strategic Defence Review*, July, London, 1998, Crown Copyright, <http://www.mod.uk/NR/rdonlyres/65F3D7AC-4340-4119-93A2-20825848E50E/0/sdr1998_complete.pdf>.

[15] *The Future of the United Kingdom's Nuclear Deterrent, op. cit.*

against its homeland and that of its allies). At the same time, the paper announced that its operational warheads, stated in the 1998 Strategic Review to number less than 200, were to be reduced to 160. Subsequently, it was indicated by Prime Minister Brown in a widely reported speech that consideration was being given to reducing the number of missile tubes in the submarines from sixteen to twelve (indeed some sources suggest that existing Trident submarines only have twelve tubes filled when on patrol), and the number of submarines from four to three, and that by the mid-2020s the number of UK operational warheads may be further reduced [16].

The principles upon which U.K. nuclear doctrine now rests were clearly laid out in Defence Minister Lord Drayson's January 2007 speech in the House of Lords [17]. They are:

- The United Kingdom's focus is to prevent nuclear attack;
- The United Kingdom will retain only a minimum deterrent;
- The United Kingdom will remain ambiguous about the situations in which it might contemplate use of nuclear weapons, but it would only be in extreme circumstances of self-defense, "including the defence of our NATO allies";
- The United Kingdom's deterrent force "supports collective security through NATO"; and
- "An independent center of nuclear decision-making in the United Kingdom enhances the overall deterrent effect of allied forces."

Drayson also made clear that "any conceivable use of our nuclear weapons — at whatever scale — would necessarily be strategic, both in intent and effect. Indeed we have deliberatively discontinued the use of the term sub-strategic, in the sense that it had been used previously to apply to a possible, limited use of our nuclear weapons." Two days later the Secretary of State for Defence, Des Browne, was even more explicit on the significant of this change in doctrine — or nomenclature, saying [18]:

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[16] Gordon Brown, Speech on nuclear energy and proliferation at the International Nuclear Fuel Cycle Conference, London, 17 Mar. 2009 see <http://www.number10.gov.uk/Page18635> and Speech to UN General Assembly by Prime Minister, 23 September 2009, <http://www.un.org/ga/64/generaldebate/pdf/GB_en.pdf>.

[17] Lord Drayson, Parliamentary Under Secretary for State, Ministry of Defence, Lords Hansard text for January 24, 2007, (part 0002), Column 1107, Opening statement in debate to take note of the White Paper, *The Future of the United Kingdom's Nuclear Deterrent*.

[18] Des Browne, "Laying the foundations for multilateral disarmament," Speech at the Conference on Disarmament, Geneva, 5 Feb. 2008, <http://www.mod.uk/defenceinternet/aboutdefence/people/speeches/sofs/20080205layingthefoundationsformultilateraldisarmament.htm>.

> [Nuclear weapons] should not be used for anything other than deterring extreme threats to our national security. The U.K. has in fact never sought to use our nuclear weapons as a means of provoking or coercing others. We will never do so. Nor are our weapons intended or designed for military use during conflict. Indeed, we have deliberately chosen to stop using the term "sub-strategic Trident," applied previously to a possible limited use of our weapons. I would like to take this opportunity to reaffirm that the U.K. would only consider using nuclear weapons in the most extreme situations of self-defence.

It is noteworthy that the wording of the last sentence of this statement is in line with paragraph 2.E of the advisory opinion of the International Court of Justice in July 1996 on the legality of the threat or use of nuclear weapons — and arguably out of line with existing NATO nuclear doctrine and statements by the Bush administration in regard to Iran.

Its would also appear that around the time of these exchanges, the remaining US nuclear weapons stored at RAF Lakenheath, a US air base in the UK, were repatriated. After 55 years no US nuclear weapons are now stored in the UK. Small numbers remain in Belgium, Germany, Italy, Holland and Turkey for use by SACEUR on both US aircraft and some of these European air-forces, though at a very low readiness level [19]. At the same time, the decision to procure replacement UK missile submarines for deployment in the mid-2020s, together with decisions anticipated in future on developing and deploying new UK manufactured warheads and US manufactured missiles, has stimulated a debate on what future deliver capabilities and warhead numbers should be.

A key element in this emerging debate is whether the prime future military purposes of the UK deterrent will be to provide a nuclear guarantee, together with a subset of the US strategic deterrent force, for the non-nuclear states in NATO Europe, focussing on threats from states on Europe's eastern and southern borders. Its further development will be significantly influenced by the 2010 US and NATO nuclear policy reviews, especially if they open the door to a repatriation of all remaining US nuclear weapons stored in Western Europe. This in turn would appear to make

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[19] Hans M. Kristensen, "US nuclear weapons withdrawn from the United Kingdom," Federation of American Scientists Strategic Security Blog, 26 June 2008, <http://www.fas.org/blog/ssp/2008/06/us-nuclear-weapons-withdrawn-from-the-united-kingdom.php>; Malcolm Chalmers and Simon Lunn, "NATO's Tactical Nuclear Dilemma," *RUSI Occasional Paper*, March 2010.

more significant the nuclear guarantees and consultation arrangements generated through NATO by the 1962 assignment of the missiles on four US and the four UK Polaris submarines to SACEUR through SACLANT. At the heart of such a debate, however, will be the more political question of why NATO states and politicians still need their regional security guaranteed by the stockpiling of US nuclear weapons in Europe, when the global reach of its strategic nuclear weapons can allow them to target all possible global threats. Moreover, states such as Japan and South Korea, which are under more immediate and greater threat, appear to have no need for such physical nuclear "hardware" security assurances.

The UK's Dual-Track Policy: "Leaning Forward" on Nuclear Disarmament?

Nuclear arms control arrangements, both multilateral and bilateral, have always been regarded as a valuable, if not essential, contribution to U.K. security. It has never had the resources to engage in competitive nuclear arms racing. Arms control arrangements simplified decision making on its nuclear capabilities and enabled it to sustain a minimal deterrent capability. During US–USSR bilateral arms control negotiations in the 1970s British officials lobbied at the highest levels in the US to ensure that any resulting treaty did not challenge the UK's ability to acquire nuclear knowledge, materials, and delivery systems from the United States. Their main concern was that constraints on transfers contained in the parallel ABM Treaty would be extended into other areas. Preventing such a spread was the key enabler to sustain a credible nuclear capability at least-cost. One consistent element in its nuclear weapon policies has thus been to seek simultaneously to sustain a credible nuclear deterrent and facilitate nuclear disarmament.

On the multilateral level, the UK's developing forensic seismology expertise was an important contribution to the negotiations on a Comprehensive Test Ban Treaty (CTBT), culminating in the signing of this treaty in 1996. In that year the UK started a search for another area where future UK research work might feed into multilateral nuclear arms negotiations. Consequently, in 1998 the new Labour government allocated money from the defense budget to allow Aldermaston to start experimental work on the forensic technologies needed to verify dismantlement of differing types of nuclear weapon. It also assumed that the UK could only contribute effectively to disarmament negotiations if it remained a nuclear weapon state and

worked within the confines of a strong U.S.–U.K. political relationship, as well as playing a facilitating role within the P-5. It regarded it as important to prevent further proliferation, and sought ways to bring India and Pakistan into a meaningful engagement on nuclear disarmament.

The United Kingdom played a significant role at the Sixth NPT Review Conference in 2000, during which it made transparent the amount of plutonium in its military stockpile. It also provided a "food for thought" working paper on the challenges facing a multilateral nuclear disarmament process, and made an "unequivocal undertaking" to accomplish the total elimination of its nuclear arsenal. Unlike others, it made no attempt in the 2002–2005 review cycle to qualify or retract this pledge. It also continued to fund its technical nuclear disarmament verification studies at Aldermaston, and in 2006 provided figures for the weapon-grade high enriched uranium in its military stockpile.

The December 2006 White Paper on Trident replacement made the UK an obvious target for criticism in future NPT meetings. In addition, a range of negative developments generated pressures both in the UK and globally to take action to reinforce the nuclear non-proliferation regime, and more specifically seek a productive outcome from the 2010 NPT Review Conference. The key to the latter was seen by the UK to be movement by the five NPT nuclear weapon states towards the global elimination of nuclear weapons. It therefore sought to position itself as an innovator in the context of the 2010 conference in two respects: to address the issue of nuclear proliferation, disarmament and security at a much higher political level than before, and by speeches and documents laying out the UK's ideas and commitments for strengthening all of these areas of activity to create a positive diplomatic atmosphere in advance of the conference.

The initial step in this process was for the then Foreign Secretary, Margaret Becket, to make a speech setting out the UK's "forward leaning" stance on nuclear disarmament at an international conference organized by the Carnegie Endowment in Washington in June 2007[20]. This speech clearly differentiated the UK from the then US administration of George Bush on this issue. In parallel two practical steps were implemented. One was to encourage the International Institute for Strategic Studies in London to produce an Adelphi paper on the challenges facing a global nuclear

[20] Margaret Becket, "A world free of nuclear weapons?," Keynote address at the Carnegie International Nonproliferation Conference, Washington, DC, 25 June 2007, <http://www.carnegieendowment.org/events/?fa=eventDetail&id=1004>.

disarmament process and how they might be overcome. The second to involve a UK NGO, VERTIC, and a Norwegian nuclear research centre in the verification work it was conducting at Aldermaston. The aim was to assess the forensic and other data non-nuclear weapon states and NGOs would require to generate confidence that a stockpile of nuclear weapons had been eliminated. Also, to identify the information NPT nuclear weapon states felt they could provide while remaining in conformity with their NPT commitments (i.e. its transfer would not assist potential proliferators). A commitment was also made to organize a workshop on this subject between representatives of the five NPT nuclear weapon states' nuclear weapon laboratories: this was held in September 2009.

As a follow-up to Foreign Minister Becket's June 2007 speech the then Defence Secretary, Des Brown, addressed the Conference on Disarmament (CD) in Geneva to underline that the UK's nuclear disarmament initiatives had the support of its military establishment[21]. In the first part of 2009, the pace significantly quickened. On 4 February, David Miliband, the UK Foreign Secretary, launched a document setting out UK thoughts on the necessary conditions for achieving nuclear disarmament entitled *Lifting the Nuclear Shadow: Conditions for Nuclear Disarmament*[22]. In March, Prime Minister Brown addressed issues of nuclear security and disarmament at a conference of parties to the Global Initiative to Combat Nuclear Terrorism (GICNT) at Lancaster House in London[23], and indicated during his speech that the UK government was preparing to launch in the summer a document on the further steps it proposed should be taken in the run-up to the 2010 NPT Review Conference.

At this point, President Obama made his Prague speech to tremendous global popular acclaim, thus appearing to threaten to take over from the UK the task of moving the global nuclear disarmament enterprise forward. But it was becoming apparent that a US CTBT ratification was unlikely to occur before the start of the 2010 Review Conference, as priority in US policy was going to need to be given to Senate ratification of an interim successor to the START agreement to sustain the

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[21] Des Browne, "Laying the foundations for multilateral disarmament," Speech at the Conference on Disarmament, Geneva, 5 Feb. 2008, <http://www.mod.uk/defenceinternet/aboutdefence/people/speeches/sofs/20080205layingthefoundationsformultilateraldisarmament.htm>.

[22] David Miliband, British Foreign and Commonwealth Office, *Lifting the Nuclear Shadow: Creating the Conditions for Abolishing Nuclear Weapons*, Policy Information Paper, Feb. 2009, <http://www.fco.gov.uk/en/news/latest-news/?view=News&id=18768185>.

[23] Gordon Brown, Speech on nuclear energy and proliferation at the International Nuclear Fuel Cycle Conference, London, 17 Mar. 2009, <http://www.number10.gov.uk/Page18631>.

verification arrangements for strategic arms due to expire in December 2009. In addition, the administration was struggling to put in place the personnel required to implement many of Obama's disarmament and non-proliferation policies. Thus the Prime Minister's launch of the document on the Road to 2010 in July[24] served to highlight the continuing leadership role that the UK was likely to play at the Review Conference and beyond in the area of nuclear disarmament. This document not only set out UK views on nuclear disarmament, non-proliferation and peaceful uses, but also emphasised the priority of ensuring the security of all nuclear materials and finding ways of creating proliferation resistant nuclear fuel cycles. Another marker of its supportive role was a nuclear security workshop at the Royal Society in London on 18/19 February 2010 to prepare the ground for Obama's Conference on this in Washington in April.

The launch of the July document by the Prime Minister was followed up in September with a meeting of officials from the NPT nuclear weapon states in London to enhance confidence between them over nuclear disarmament processes. Yet at the same time, a question mark started to loom over the future of this policy process. The Labour government had to go to the country before the existing parliament ceased to exist at midnight on 10 May 2010, with a general election having to take place three weeks later. The impact of this event upon UK "forward leaning" policies both at the 2010 Review Conference (3–28 May) and in the longer term is thus uncertain. Indeed the decision to hold the election on 6 May means that until the new government takes office Britain's, ability to play an active constructive role at that conference will be limited.

The UK Experience with Nuclear Weapons: Current Issues of Relevance to Japanese Debates over Nuclear Weaponry

1. The Role of Nuclear Weapons in Today's World

The end of the Cold War brought about a rapid re-assessment by the UK of its nuclear weapon needs as the perceived military threat to Western Europe from the USSR declined and NATO's borders moved eastwards. This culminating in the 1998 decision to concentrate all the UK's nuclear weapon capabilities on its four new Trident missile submarines, a de-alerted, invulnerable system with a global reach

[24] Gordon Brown, "The Road to 2010: Addressing the Nuclear Question in the Twenty First Century, Cm 7675," (Norwich: Stationery Office, July 2009), <http://www.cabinetoffice.gov.uk/reports/roadto2010.aspx>.

judged unlikely to be technically challenged by defences for some decades. By mid-2000 these were officially de-targeted. At the same time it had acquired conventionally armed submarine launched cruise missiles from the US for use in anti-proliferation roles, and was arguing at the political level that its force was a deterrent against nuclear use by others, rather than a war-fighting military instrument, though the exigencies of its policy over Iraq in the years up to 2003 led to some statements by ministers suggesting otherwise[25].

Within Europe, the need for alliance solidarity meant the UK assigning some of its Trident 'sub-strategic' (presumably low-yield) warheads to NATO as substitutes for the withdrawn WE177 gravity bombs previously deployed in Germany, Cyprus and the UK. Moreover, after the Balkan wars and 9/11, the UK military became increasingly focused upon its counter terrorism and counter-insurgency warfare roles, rather than preparing to fight main-force tank battles in Central Europe. Nuclear weapon issues became less salient in courses at its military academies. Arguments also emerged that the main role of its nuclear force was now to provide a back-stop deterrent to possible nuclear threats to its conventionally armed intervention forces, until such time as effective theatre nuclear missile defences could be developed and deployed.

As a consequence, the 2006 U.K. White Paper focused heavily, in its justification for the Trident submarine replacement decision, on what was described as "Insuring against an Uncertain Future". The sources of such an uncertain future were seen to reside mainly in the Middle East, Asia and Northern Africa. The White Paper[26] identified the key elements of that future as likely to be:

- Increases in the number of nuclear weapon states;
- safe havens for international terrorists and wider instability arising from the existence of weak and failing states;
- Enhanced pressures on access to basic human resources such as energy and water (driven by population growth, globalization and climate change) and the increasing interstate tensions that would result;
- Rapid and uncontrollable development of military-relevant technology within the civil sector, making potential adversaries capable of creating innovative

[25] See for example Geoffrey Hoon, Secretary of State for Defence, British House of Commons, "Iraq," *Hansard*, 29 Apr. 2002, <http://www.publications.parliament.uk/pa/cm200102/cmhansrd/vo020429/debtext/20429-05.htm#20429-05_spnew9>, column 665.

[26] *The Future of the United Kingdom's Nuclear Deterrent*, op. cit.

modes of interstate war and international terrorism; and
- An increased risk of conflict between the UK and a nuclear-armed state, as a consequence of a combination of these factors [27].

More specifically, the White Paper saw nuclear weapons protecting U.K. vital interests in this period in three specific geopolitical contexts:
- The re-emergence of a major nuclear threat to the United Kingdom and its NATO allies after 2020 (i.e. from Russia and states on NATO's Eastern and Southern borders);
- The emergence of one or more nuclear states with a more limited nuclear capability, which would put at risk U.K. vital interests or fundamentally constrain the UK's foreign and security policy options (e.g. Iran); and
- Global networks of state-sponsored terrorism, where any state that the United Kingdom could hold responsible for assisting a nuclear attack on its vital interests could not rule out an appropriate proportional response (i.e. possibly a nuclear one) [28].

One of the consequences of the UK missile submarine decision, and its impact on its parallel track disarmament activities, has thus been to force the UK government to be much more explicit about the roles it expects its nuclear weapons to play in future, and in so doing to create a template for other nuclear states to follow.

2. UK Domestic Debates over Nuclear Disarmament

As was to be expected, the 2006 White Paper and the subsequent 2007 parliamentary debates triggered a number of sub-debates over the future of the UK nuclear deterrent. These have focused on three main issues: the deterrent as an insurance premium worth (or not-worth) paying; the current need for an operational deterrent; and how to take multilateral disarmament forward while minimizing that deterrent's costs and capabilities.

The debate over the deterrent as an insurance policy has focused on whether it is wise and necessary to use this argument as a justification for the construction of a replacement submarine fleet. Given the major reduction in nuclear and other security threats to the UK, this is a justification many non-nuclear-weapon states could use as

[27] *The Future of the United Kingdom's Nuclear Deterrent*, op. cit., p. 19, Paragraph 3.9.
[28] Ibid., Paragraph 3.9–3.12.

grounds for a national nuclear weapon programme, particularly those who perceive themselves confronted by major military threats (e.g. Iran). It also hints at the driver for the 2006 UK decision being to sustain a resource and expertise base in Britain for its deterrent, rather than a need to confront any current and immediate concerns: to maintain future options, rather than respond to existing threats.

The second debate has been over the current military or political need for a UK nuclear deterrent force; whether the existing force is capable of being "mothballed" or placed in reserve in any realistic technical way; and whether its existence can be justified in terms of use, rather than its "fleet in being" existential deterrence capabilities. In the latter context, cases have been made for the UK nuclear force having a positive role in deterring or responding to WMD terrorism (now seen as the major physical threat to the UK homeland). Here the argument has been that its low yield warheads have a potential "proportional" use to deter any state sponsorship of terrorism, given the UK's nuclear forensic capability to identify the origins of the nuclear material (e.g. Polonium 210) used in any terrorist nuclear or radiological device. In addition, it has been suggested that the deterrent has a role in preventing nuclear or WMD attacks on national and NATO intervention forces. A final element of the current and future "need" debate concerns opportunity costs, military priorities and limited national resources. Eight years of military engagement in Iraq and Afghanistan have left the UK's conventional military resource base depleted with no clear future respite in sight and troops being regularly killed and injured. At the same time the Trident force is continuing to consume capabilities which are designed never to be used. In an era of economic stringency, the military opportunity cost of Trident is often popularly seen as involving a choice between it and the construction and deployment of two new conventional aircraft carriers and their aircraft, not to mention better equipment for its land forces actively engaged in warfare in Afghanistan.

Finally, there is a debate developing rapidly on how to take forward multilateral nuclear disarmament. This debate has been joined by a number of former high level politicians and military officers, the "High Level Group"[29], who are seeking to use British influence and position arising from its NPT nuclear-weapon status to move the global disarmament debate forward. In parallel, this has led to questions being asked about whether the capabilities currently committed to nuclear deterrence, as

[29] For details, see www.toplevelgroup.org.

well as those planned for the future, can be further reduced. In turn this has led to a focusing on the issue known as CASD-Continuous at Sea Deterrence (i.e. whether the UK always needs to have a nuclear deterrent submarine at sea), and whether nuclear armed cruise missiles could be substituted for the more expensive Trident ones [30].

The underlying assumption during the Cold War period was that there would always be a high risk of the UK force being subject to a surprise preemptive attack. If the UK force is seen as an independent national one, the case for continuing CASD and basing future forces on this criterion arguably remains relevant. If its role is to make a European nuclear deterrent contribution to the forces available to the NATO SACEUR, where the "at-sea-deployments" of US (and in future possibly French forces [31]) can be assured, it may no longer be necessary. Moreover, if national CASD was to be removed as the basis for force planning, it is unclear what alternative criteria could be used to determine the size of the force. For it is in this multilateral assignment and the long standing consultative arrangements over use of these weapons that the main differences between the roles of the UK and US on the one hand, and other nuclear weapon states on the other, are to be found.

3. UK Perspectives on Obama's Initiative on Nuclear Disarmament

While the UK government supported and welcomed the practical non-proliferation measures taken by the Bush administration (e.g. PSI and GNEP), and even supported regime change as a solution to a perceived Iraq nuclear proliferation threat, it became increasingly uneasy at its unwillingness to progress negotiations on nuclear arms control and disarmament. After the failure of the 2005 NPT Review Conference, which some observers blamed on US policies as well as those of Iran and Egypt, there were growing fears that its concentration on non-proliferation at the expense of disarmament would serve to undermine the global nuclear non-proliferation regime. A systematic UK strategy was therefore instituted once Brown has succeed Blair as UK Prime Minister to separate the UK publicly from the US (and France) over this issue. The initial move was the speech of Foreign Minister Margaret Becket, to the

[30] Nick Richie, "Stepping down the Nuclear Ladder: Options for Trident on a Path to Zero," Bradford Disarmament Research Centre, May 2009, <http://www.brad.ac.uk/acad/bdrc/nuclear/trident/briefing5.html>.

[31] Newspaper reports suggest that the idea of Anglo-French collaboration to jointly sustain a CASD was raised by France at a meeting in March 2010 between its President and the UK Prime Minister. Julian Borger and Richard Norton-Taylor, "France Offers to Join Forces with UK's Nuclear Submarine Fleet," *Guardian*, 19 March 2010.

Carnegie Foundation Conference in Washington in June 2007[32], and of Defence Minister Des Brown to the CD in February 2008[33]. This was followed in early 2009 by the launch of Foreign Minister Miliband's Lifting the Shadow: Conditions for Nuclear Disarmament document[34], and the Prime Minister Brown's March 2009 keynote speech to the Lancaster House GICNT meeting[35], which trailed his July 2009 document setting out the *Path to 2010*.

Obama's Prague speech in April 2009 signalled clearly that under him the US would take nuclear disarmament seriously, and that negotiations on nuclear arms control with Russia would have initial priority. At the same time, it made further British moves to distance the UK from US positions on nuclear disarmament unnecessary, and in some quarters generated concerns that the UK would now move into the background on this issue. The July Path to 2010 document[36], however, and the February 2010 Royal Society Nuclear Security Conference both served as a precursor to Obama's Nuclear Security Conference on 13 and 14 April 2010, while the convening of the September 3 and 4 2009 P-5 meeting in London suggested that the UK was also seeking to act as a facilitator for collective P-5 actions in the nuclear area.

Nevertheless, it is clear that the future role of the UK in the area of multilateral nuclear disarmament will depend on the speed and determination of the Obama administration in moving from declarations to practical actions. Once this starts to occur, the potential future roles of the UK in this area may become clearer. One looming uncertainty, however, is the impact of the 2010 UK general election upon the role it can play in the May 2010 NPT Review Conference given that it will occur during the first week of that meeting. It is equally unclear how a new British government coming into office during that conference will view the UK's current "forward leaning" disarmament stance.

4. The "Special Nuclear Relationship" with the US

The UK has been unique among nuclear weapon states in relying upon another state for its strategic delivery systems; having collaborative relationships with it over nuclear warhead design and submarine power plants; and in procuring weapon

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[32] Becket, "A World Free of Nuclear Weapons" op. cit.
[33] Browne, "Laying the Foundations for Nuclear Disarmament" op. cit.
[34] Miliband, *Lifting the Shadow*, op. cit.
[35] Brown, Lancaster House GICNT speech, op. cit.
[36] Brown, *Path to 2010*, op. cit.

components from it. The political basis of this relationship is also unique: the assignment of its strategic nuclear force to the NATO SACEUR. This is reinforced by extensive and long-standing bilateral and multilateral consultancy arrangements over nuclear use. The division of labour underpinning the 1958 Mutual Defence Agreement with the US led naturally to a position where the UK was the dependent partner in the bilateral relationship, in part because the larger US explosive nuclear testing capacity gave it major advantages in moving nuclear technology forward.

Since the mid-1980s, however, the technical relationship between the two states has been changing and edging closer to a more equal partnership, though not as yet anything close to a merger. The end of nuclear explosive testing in 1996 removed one of the key quantitative advantages the US had over the UK, and both have been collaborating technically on sustaining stockpile stewardship in a situation where what has been called 'nuclear marginalisation' by at least one leading US analyst appears to have been halted in the UK, but still persists in the US. This is a product primarily of the UK has moving ahead of the US by recruiting new staff for both Aldermaston and the Rolls Royce submarine reactor division at Derby, with the latter working on a new reactor design for the future missile submarines, possibly based on low rather than high enriched uranium fuel. The UK is thus leading the way towards a new missile submarine design (and some US sources suggest in joint work on any successor to the existing missile stockpile). The two states have much less constrained exchanges of data in this area than in past decades, and an agreement to work on a common design for the missile centre section of their future missile submarines. Indeed it has been suggested that the evolving division of labour allows Aldermaston to work on issues that Congress will not currently allow the US labs to address. Also, a US national has until recently held the position of CEO at Aldermaston, with the management consortium comprising two US and one UK enterprises, while nationals from the other state peer review some aspects of the other's national development work[37].

This increasingly open relationship has two dimensions to it. One is that in an era of limited resources in the nuclear weapon area and common needs to collaborate over measures to combat potential nuclear terrorist acts, the relationship has been evolving into one similar to that existing in the intelligence field. A second is that this nuclear relationship is a means to a much wider UK political objective: to continue to

[37] <http://www.awe.co.uk/aboutus/the_company_eb1b2.html>.

"hug the US closely" and be in a position to effectively influence US security policy in all its aspects through the bilateral and multilateral consultation mechanisms to which it has access. And it is at this point that UK policies over both nuclear weapons and disarmament run in parallel, for the former may serve as a means to influence the US over the other. However, as bilateral disarmament negotiations between the US and Russia move beyond START 2010, difficult choices may have to be made over this evolving nuclear relationship to mitigate Russian concerns about the UK being used by the US to sidestep future bilateral treaty constraints. Equally, this concern could be a driver for expanding the bilateral nuclear arms control negotiations into multilateral disarmament ones, encompassing the pioneering work being done by Aldermaston on technical verification issues [38].

5. The Credibility of Extended Nuclear Deterrence

The history of UK nuclear weapon policy is a chronicle of the evolution of concepts of extended nuclear deterrence. On the one hand the UK was the first European (at that time non-nuclear-weapon) state to base US nuclear weapons on its territory to provide a deterrent capability relevant to all NATO states. It also grappled from this point onwards with the need and mechanisms to guarantee effective consultations with successive US Presidents before use of these weapons. On the other hand, when the UK cabinet discussed in both 1958 and 1967 whether to rely totally on the access to nuclear warheads provided by the US Project E and similar NATO arrangements in times of war, it opted to continue with an independently controlled strategic force, but one assigned to the NATO 'Common Defence'. Indeed, despite the credibility of US deterrent commitments to Western Europe being reinforced by the passage of time, the capability for UK independent national nuclear action has been sustained. One concept used to justify this was that the UK made the NATO strategic deterrence posture more credible by acting as a European 'second centre for decision', something which was contrary to past US non-proliferation policy as it offered the possibility that the US might be confronted with uncontrollable escalation if a nuclear conflict started.

In parallel to the strategic arrangements, however, the UK also contributed to

[38] "Verification of Nuclear Disarmament: Final report on Studies into the Verification of Nuclear Warheads and their Components, NPT/CONF.2005/WP.1," Working Paper submitted by the United Kingdom of Great Britain and Northern Ireland, 18 April, 2005, <daccessdds.un.org/doc/UNDOC/GEN/NO5/312/81/PDF/NO531281.pdf?OpenElement>.

NATO's battlefield/theatre war fighting forces. On the one hand it accepted the same arrangements as other Western European states, and relied for battlefield nuclear weapons on access to US stocks of nuclear weapons in time of war. At the same time, apparently at SACEUR's request, it provided him from 1973 onwards with nuclear strike aircraft equipped with two types of UK gravity bombs: high yield WE177B weapons (reserved for USSR targets), and WE177C weapons of below 200 kt yield for use against non-USSR ones. It appears to have been believed that this SACEUR controlled force would be a 'second centre for decision' on battlefield use if war were to take place, and that this would enhance the credibility of the NATO extended deterrence arrangements to friends and foes alike.

What remains unclear, however, is the degree to which access by the NATO non-nuclear weapon states to US Nuclear Weapons, often labelled 'nuclear sharing', played a role in making both US extended nuclear deterrence more credible to both allies and potential enemies, and in preventing further nuclear proliferation in Europe. For the ultimate hardware expression of this idea, the planned NATO mixed-manned strategic nuclear force (MLF) of the early 1960s, was superseded after 1965 by the creation of the NATO Nuclear Planning Group (NPG). Its purpose was to provide a forum within which allied nuclear war plans could be discussed, strategic concepts elaborated, and states involved could aspire to have access to, and participation in, nuclear planning decisions. It would appear that this political "software" solution to the credibility problems associated with extended deterrence resolved the early 1960s frictions and concerns. However, the issue re-appeared at the end of the 1970s with the debates over how to respond to USSR intermediate nuclear force deployments, and the NATO response of deploying ground launched cruise missile/Pershing II short-range ballistic missiles in parallel with participating in the negotiation of a nuclear arms control agreement to ban these types of weapons. This strategy resulted in the INF agreement, banning these weapons and their USSR equivalents.

The end of the Cold War totally revolutionised the security situation in Europe in a way that did not occur elsewhere. The USSR ceased to exist and almost all the former Warsaw Treaty states were incorporated into the EU, and most into NATO. Yet in 1999 the NATO Strategic Concept re-affirmed the need for both an alliance nuclear capability and a continued unwillingness to adopt a no-first use posture[39].

[39] NATO, "The Alliance's Strategic Concept," NATO Official Texts, 24 April 1999.

Whether this position will be sustained in the upcoming US and NATO strategic posture reviews remains to be seen. In the case of US nuclear weapons and NATO, two distinct issues are involved: the continued stockpiling of nuclear bombs for US aircraft at European bases and access to them by those NATO air-forces that possess dual-capable aircraft (DCAs). No US weapons now remain in the UK, and those for use by other air-forces are nominal in number. Moreover European air-forces are now considering procurement of a new generation of, strike aircraft which would be both cheaper and more capable if the technology to deliver nuclear ordnance was not built into them, while forgoing existing nuclear commitments and capabilities would greatly simplify their training and security requirements.

The UK is not directly affected by either of these debates, but a core issue which is emerging is whether in current circumstances the security assurances provided by these US weapons and their NATO means of delivery are still necessary or desirable, particularly given the negative effects generated by them at NPT Review Conferences. However, if they are to be removed from Europe it would mean that the hardware part of providing extended nuclear deterrence to NATO states will now reside in the US and UK strategic nuclear missiles assigned to SACEUR (and French missiles and gravity bombs). In these circumstances it is problematic whether the role of the current UK nuclear force in relation to extended deterrence should be regarded as enhanced or peripheral. Also problematic is the minimum number of missile submarines and warheads now required to provide extended strategic deterrence to the whole of Europe.

NATO's need to retain the ability to engage in first use of nuclear weapons originated in a situation of a perceived Warsaw Treaty superiority in conventional weapons, and the need to threaten nuclear use to deter invasion. Now roles are reversed: it is Russia, not NATO, which appears to need the ability to use nuclear weapons to defend itself against conventional aggression from its geographical neighbours. When the current UK labour government entered office, it did soon a platform of wishing to institute a no-first use policy for the UK nuclear forces. Once in office this was rapidly dropped as it became clear that it was a NATO policy decision, not a national one. This still remains the case. Moreover, the issue has now become entangled in questions of whether NATO's conventional capabilities are such that they can deter nuclear attacks by the threat of their usable conventional military capabilities alone. However, it remains likely that even if US nuclear stockpiles are removed from European soil, concerns over other forms of non-conventional attacks

will continue to make NATO states reluctant to agree to a no-first-use posture.

6. The Role of Regional Alliance Arrangements Underwritten by the US

The starting point for any understanding of UK nuclear weapon policies is not only that it was the 'midwife for the Bomb', opening it to policies of bureaucratic inertia in remaining a nuclear weapon state, but that from 1958 onwards its nuclear weapons played both an international and domestic role while operating within both a bilateral and multilateral US alliance context. Indeed the key to understanding the US–UK special nuclear relationship is the positioning of UK forces within the US concept of the 'common defence'. Indeed it could be argued that from 1946 onwards the UK aim has never been to seek a force capable of independent action for its own sake (except perhaps in the period through to 1971 when it contemplated their use to deter attacks on its dependencies East of Suez), but to facilitate a joint enterprise with the US of providing extended deterrence against nuclear threats to Europe. Indeed it was only the US domestic legislation in place in 1958 that prevented the vision of Macmillan and his predecessors becoming a reality, namely that the UK would continue to research nuclear weaponry in collaboration with the US as in 1943–5, but with the US providing the UK with complete weapons for use on its delivery systems.

Instead, the next-best solution was adopted: access to US weapons in wartime under Project E and access also to US delivery systems, technical knowledge, components, materials and facilities to assist in the production of its own nuclear ordnance through the 1958 MDA and the 1962/3 Nassau and Polaris Sales Agreements. During the 1960s this ordnance became firmly anchored to the NATO context, alongside equivalent US weaponry, with both states sharing a role as the provider of extended strategic deterrence against both nuclear and conventional attacks from the Warsaw Pact countries. It was this alliance context which both justified US nuclear assistance to the UK domestically and enabled the UK to feel that in the unlikely event of the US withdrawing from the alliance, it might be able to shoulder the burden of extending nuclear deterrence to the rest of the states of NATO Europe on its own.

Some Brief Conclusions

Without NATO there would be no contemporary UK nuclear deterrent. But equally

since 1989 both the NATO and UK nuclear deterrents (and the French one?) could be argued to be military capabilities in search of a role (and targets) in the current uncertain security world. And as warhead numbers (and yields?) have gradually reduced, the physical presence of US nuclear weapons in Europe has become more problematic. Yet a key issue for the states on the NATO periphery (e.g. Turkey and the East European states) continues to be whether for psychological and perceptual, rather than military, reasons they still need either their own nuclear weapons, or ones belonging to another state, on their territories to combat extra-regional nuclear threats. For the core of the matter appears to be one of machines versus human perceptions: whether in an extreme case, the proven performance of a Trident missile based 5000 miles away and owned by a third party can offer both credible guarantees and effective deterrent effects in contemporary conflict situations. Yet in Europe this is the situation that the UK and US appear to be moving towards through the continued assignment of their nuclear ballistic missiles to the NATO SACEUR, and their resultant collective extended deterrence commitments. This situation will become more transparent if the few remaining US nuclear weapons stored in Europe are to be repatriated.

In parallel, however, a startling contradiction is emerging. Although removal of US nuclear stockpiles from Europe and moves by NATO towards a no-first-use posture will be welcomed by many states as facilitating a positive outcome at NPT Review Conferences, it will also focused deterrence capabilities upon the actions of allies whose weapons are situated many hundreds of miles distant from a potential conflict. It will also place an increasingly heavy burden upon conventional military capabilities capable to generate similar politico/military effects, given that, unlike the case with WMD, states are not legally bound currently to deny export of these to others.

How this contradiction will evolve in today's globalising world will determine the fate of both the UK (a nuclear weapon state facing no immediate inter-state threat but extending alliance security assurances to states which do), and states such as Japan and South Korea (lacking the supporting infrastructure of a regional alliance and without their own nuclear weapons). What these states have in common is that their future security appears to rest on the US commitment to provide a regional nuclear deterrent force. However, in the European case it is in concert with the United Kingdom and to a lesser extent France, whereas in the East Asian case there is no comparable regional organisation or nuclear equipped regional partner. The

challenge this generates is that access to advanced conventional military technology alone may not convince regional partners bordering nuclear-armed neighbours that their security is assured in the absence of independently owned nuclear weapons. A key question for the future may therefore be whether the NATO ‘software’ solution of the mid-1960s of enhancing consultations mechanisms over nuclear use will be sufficient to meet this challenge.