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**NUCLEAR
SECURITY
SERIES**

Unblocking the Road to Zero

PERSPECTIVES OF ADVANCED NUCLEAR NATIONS



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BLECHMAN**
Editor



FRANCE AND THE UNITED KINGDOM

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PREFACE

I am pleased to present *France and the United Kingdom*, the first in a new series of Stimson Center publications addressing the question of how the elimination of nuclear weapons might be achieved. The Nuclear Security Project is aimed at exploring the practical dimensions of this critical 21st century debate, to identify both political and technical obstacles that could block the road to “zero,” and to outline how each of these could be removed. Led by Stimson's co-founder and Distinguished Fellow Dr. Barry Blechman, our project aims to provide useful analysis that can help US and world leaders make the elimination of nuclear weapons a realistic and viable option. The series comprises country assessments, to be published in six different monographs, and a separate volume on technical issues.

This first volume, by Dr. Bruno Tertrais of the Fondation pour la Recherche Stratégique, and Sir Lawrence Freedman of King's College, addresses nuclear disarmament as seen by US allies Britain and France.

Each of the country assessments, to be published ad seriatum, considers the security conditions that need to be met before the government in question would participate in a multilateral disarmament process. Next in the series is another pair of countries, the emerging world powers, China and India. Later volumes will examine the two newest nuclear aspirants—North Korea and Iran; the two nuclear superpowers, Russia and the United States; Pakistan and Israel, both of which view their nuclear weapons as vital to offset a strategic adversary's greater size and conventional capability; and countries with advanced civilian nuclear capabilities that could be future weapons states, such as Brazil, Japan, and Turkey.

Later in the year, a set of papers assessing such technical issues as verification, warhead dismantling, and governance of a disarmament treaty regime, will be published in a single volume, complementing this series of country assessments.

This new series will make an important contribution to the new and renewed debate about how to rid the world of the dangers of nuclear weapons. This enduring strategic issue has been a central concern of the Stimson Center since its founding twenty years ago. I hope that this new publication will provide insights and pragmatic ideas to facilitate wise policymaking, in keeping with Stimson tradition.

Sincerely,



Ellen Laipson

INTRODUCTION

In recent years, the twin threats of proliferation and terrorism have led to a growing chorus of world leaders calling for the global elimination of nuclear weapons. Now, thousands of individuals from around the world and across political lines have come together in a new project called *Global Zero*. The project combines policy research and analyses with broad-based and sustained public outreach to encourage key governments to negotiate a comprehensive agreement to eliminate all nuclear weapons through phased and verified reductions.

In support of *Global Zero* and the many other ongoing efforts to eliminate nuclear weapons, and in collaboration with the World Security Institute, the Stimson Center has commissioned a series of papers examining the strategic obstacles that block the achievement of zero nuclear weapons world-wide. Written from the perspectives of individual countries that either possess nuclear weapons or have the potential to develop them relatively quickly, the papers describe those nations' official views on, and plans for, nuclear weapons, as well as how the prospect of wide-spread proliferation and the possibility of nuclear disarmament might change those perspectives. The primary purpose of each paper is to identify the policies and international developments that would encourage decision-makers in each nation to look favorably on a treaty to eliminate nuclear weapons by a date certain.

The first two papers in the series, *France*, by Bruno Tertrais, and the *United Kingdom*, by Lawrence Freedman, published together in this volume, present an interesting contrast. Nuclear weapons play a central role in French security policy; it would therefore require a united initiative by other nuclear weapon states, and especially by the United States and Russia, to persuade France to join disarmament negotiations. In UK security policies, on the other hand, nuclear weapons play far less important roles, making it likely that any serious disarmament initiative by the United States would gain support in the United Kingdom. Together, the papers make clear that if the US and Russia make significant progress toward deep reductions in their own arsenals, in the context of seeking to stimulate multilateral disarmament negotiations, the two West European nuclear powers are likely to come to the table, as well.

This series of papers has been made possible by grants from the World Security Institute and the Ploughshares Fund, as well as by gifts from individual donors. The Stimson Center and the series' editor are grateful for their generosity. The views expressed in the papers are those of the writers. They do not necessarily represent the views of the Stimson Center, the sponsoring organizations, or of *Global Zero*.

Barry M. Blechman

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FRANCE

FRENCH PERSPECTIVES ON NUCLEAR WEAPONS AND NUCLEAR DISARMAMENT

Dr. Bruno Tertrais

When it comes to nuclear policy, France is the most conservative of the three Western nuclear weapon states, and President Nicolas Sarkozy has confirmed that he will maintain continuity in this domain. Since the end of the Cold War, however, France has also taken major, irreversible unilateral steps toward disarmament—in tune with its policy of “sufficiency” in nuclear deterrence.

Thus, while the issue of nuclear abolition continues to be met with much skepticism in the country, Paris may not want to be isolated if a major global political movement was initiated in this direction. But any decision by France to give up its nuclear weapons entirely would require extraordinary circumstances and profound changes in the strategic and political environment.

FRENCH RATIONALES FOR MAINTAINING NUCLEAR WEAPONS

France maintains nuclear weapons both because of security concerns and to support its regional and global political ambitions.

SECURITY CONCERNS

While there was undoubtedly a major political dimension in France’s original decision to build a nuclear force, security concerns were paramount, and today it is mostly security rationales that explain France’s policy to maintain nuclear weapons in the post-Cold War environment.

Among European powers, few countries felt as unsafe as France at the beginning of the second part of the 20th century. French territory had been invaded three times in a few decades, the last one resulting in its humiliating 1940 defeat—an event that traumatized future President Charles de Gaulle to the point of saying in 1943, “We must want the existence of France. Never again will it be self-evident.”* Thus, in

*Quoted in Pierre Messmer & Alain Larcen, *Les écrits militaires du général de Gaulle* (Paris: Presses Universitaires de France, 1985), page 201. The 1940 trauma was also a significant motivation for the Fourth Republic’s politicians. One of the political fathers of the French atom bomb, Felix Gaillard, said that his first reaction when hearing the news about the first test in 1960 was that France had finally overcome the 1940 defeat (André Bendjebbar, *Histoire secrète de la bombe atomique française* (Paris: Le Cherche-Midi éditeur, 2000), page 290).

the 1950s, the perception that a major new threat to the country's existence was emerging (the Soviet Western Group of Forces was stationed in East Germany, not far from French territory) caused French leaders to perceive a pressing need for a security guarantee. But French leaders did not believe the US nuclear guarantee, then being extended to the West European members of NATO, was enough of an assurance, and sought their own nuclear deterrent.

Today, major threats to Europe have disappeared, but the French still believe there is value in maintaining a nuclear deterrent for security reasons. Two rationales are put forward. The first refers to what the French often call the "life insurance" function. Most French leaders and analysts believe that the world can change rapidly and that the emergence of a new major threat to Europe within fifteen to thirty years is not a far-fetched scenario. Accordingly, it is deemed prudent to maintain a national nuclear deterrent. As then-President Jacques Chirac stated in 2006, "In light of the concerns of the present and the uncertainties of the future, nuclear deterrence remains the fundamental guarantee of our security."¹ He insisted that France is "not shielded from an unforeseen reversal of the international system, nor from a strategic surprise."² He emphasized further that the rise of nationalism and the competition between poles of power could give rise to new major threats. In short, the French logic is that even in the absence of a major threat today, it might as well keep its nuclear weapons to protect against the possibility of future threats, so long as the cost of doing so remains bearable.

While mindful that the world has changed drastically and that the notion of a bilateral strategic balance does not make sense anymore, the French consider the unraveling of the arms control process since 2001 to be an additional reason for caution. The US withdrawal from the Anti-Ballistic Missile (ABM) Treaty, Russia's subsequent abandonment of the START-2 Treaty, Moscow's decision to suspend its implementation of the Conventional Forces in Europe (CFE) Treaty and its threat to withdraw from the Intermediate-range Nuclear Forces (INF) Treaty, are all seen as factors that enhance the unpredictability of the strategic environment and thus bolster France's resolve to maintain a nuclear deterrent.

Despite France's traditionally good relations with Moscow and Beijing, the idea that one of these two countries could one day pose a major threat to Europe also is far from being dismissed in French political circles. While Russia is traditionally first on the list of "major" powers that could potentially be a threat to Europe, China now appears to come in second. In 1999, then-Prime Minister Lionel Jospin indicated that the French deterrent should be able to counter any serious threat, "even a distant one."³ This was interpreted as signifying that the build-up of nuclear arsenals in

Asia was deemed a matter of concern for Europe. Arguably, one would be hard pressed to imagine a credible scenario in which China would directly threaten France, but Paris worries about a future scenario in which, for instance, Beijing seeks to deter French involvement in a crisis in Asia by exerting a veiled nuclear threat.

The second security rationale is to guarantee that no regional power could blackmail or pressure France with weapons of mass destruction (WMD). This emerged as a serious concern with the discovery of the scope of Iraq's pre-1991 WMD program, followed by the break-up of the Soviet Union in 1991 and the fear that Belarus, Kazakhstan, or Ukraine would retain the former Soviet nuclear weapons that remained on their soil. Starting in 1992, French official texts and speeches began mentioning the validity of nuclear deterrence to protect against nuclear and other WMD regional threats, provided of course that they were serious enough to threaten the country's vital interests.

Among potential threats to French vital interests, nuclear and ballistic missile proliferation in the greater Middle East is a topic of particular attention. Breaking with a sometimes lenient attitude towards proliferation during the Cold War, France has bolstered its efforts to fight against the spread of nuclear weapons aggressively since the early 1990s. As one of the three European countries which initiated a dialogue with Iran about its nuclear program in the summer of 2003, it has become a key player on the nuclear non-proliferation scene. Specifically, France has made various suggestions to reinforce the existing non-proliferation regime. For instance, French officials have proposed means to ensure that a country leaving the NPT does not go unpunished for the violations it may have committed as a member.

A nuclear-capable Iran with the ability to strike Europe with ballistic missiles would certainly reinforce the general trend in France towards nuclear conservatism and continued modernization of its nuclear forces. Iran has had a tense relationship with France since the 1979 revolution and, in French eyes, the manner in which the current nuclear crisis is resolved is important for the future of non-proliferation and security in the Middle East. In addition, Paris has security agreements with Kuwait, Qatar, and the United Arab Emirates. The contents of these agreements have not been made public, but it could be argued that the opening of a permanent French military base in Abu Dhabi in 2008 is tantamount to extending a security guarantee.

In a worse-case scenario of free-for-all nuclear proliferation, the possibility of new nuclear-armed states in North Africa would be a particular source of worry in France. One country of particular concern to the French would be Algeria, for

obvious geographical and historical reasons, especially since it had secret nuclear activities in the 1980s.

Asian countries other than China also could be of direct concern to France if they developed Intercontinental Range Ballistic Missiles (ICBMs). This could be the case for North Korea, for example: As Pyongyang's missile ranges increase, geography will ensure that European territory will be technically at risk before US territory is endangered.

With regard to dealing with the consequences of nuclear proliferation, the prevailing opinion in Paris is that nuclear deterrence is a better and safer choice than relying on missile defenses. The kind of scenario that has French officials worried is one, for instance, in which a country tries to block military intervention by threatening to strike French national territory. This concept could be called "counter-deterrence" or "counter-blackmail." No specific countries of concern are identified in French official discourse; Paris has not adopted the US practice of "naming names," in line with a consistent practice of refusing to establish a sharp distinction between "good guys and bad guys" in the international community. However, Iran is now mentioned regularly in official foreign and security policy speeches.

GLOBAL AND REGIONAL AMBITIONS

In its origins, France's nuclear program was partly driven by a quest for global status. It was particularly important for the politicians of the Fourth Republic (1945-1958), as well as for Charles de Gaulle upon his return to power in 1958, to have equal status with the other two major Western powers, the United States and the United Kingdom. In 1954, Pierre Mendès-France, then head-of-government, came back from a meeting at the United Nations stating that "if you do not have the Bomb you are nothing in international negotiations."⁴ That same year, a note by the Ministry of Foreign Affairs stated that, "The direction of strategy will from now on, increasingly, belong to the powers possessing the atomic weapon...It is essential that France undertakes an atomic military program. Otherwise, its security will be entirely assured by the Anglo-Saxons."⁵ When De Gaulle returned to power in 1958, he considered the bomb "a political means to allow him to sit at the Great [powers'] table."⁶

Today, this concern for global status has largely disappeared. In discussing the need to maintain nuclear forces in 2008, President Sarkozy said clearly, "It is neither a matter of prestige nor a question of rank, it is quite simply the nation's insurance policy."⁷ There is no link made today in France between the country's possession of nuclear weapons and its status as a permanent member of the United Nations

Security Council. The French consider that they have special responsibilities stemming from this status and that they exert it through voluntary financial contributions to the UN organizations and through significant military contributions to UN-mandated operations. Paris actively supports opening the UNSC to new permanent members, be they nuclear (India) or not (Japan, Brazil, etc.).

However, the possession of nuclear weapons is not without connection to French foreign policy defined broadly. The underlying idea that nuclear weapons make a nation free and independent is still present in the national strategic culture. The country's nuclear status seems to be present in the back of the minds of any French president, prime minister or foreign minister in their daily pursuit of foreign policy. As President Chirac stated in 2006, “[Nuclear weapons] give us, wherever the pressures may come from, the power to be the masters of our actions, of our policy, of the enduring character of our democratic values.”⁸

One may even wonder: Would France have taken the stance it did take in early 2003—actively opposing war in Iraq to the point of threatening to veto the passing of a United Nations Security Council resolution—had it not been an independent nuclear power which did not depend on the United States for guaranteeing its security?[†]

Generally speaking, there has never been a direct link between France's political status in Europe and the possession of nuclear weapons. Throughout the Cold War, the European integration process did not see a weakening of France's relative place and role on the continent. Germany, France's foremost partner in this process, was economically strong but politically weak, and the United Kingdom was not a central player in the European game.

However, since the early 1990s, the nuclear issue has been linked with the European integration process in two different ways. One reason, as first raised by President Francois Mitterrand in 1992—at the time the European Union (EU) was created—is the difference in status between, on the one hand, France and the United Kingdom, and, on the other hand, the non-nuclear weapon states of the EU. Mitterrand worried that this difference in status in the EU could make the continuation of political integration more difficult. A second reason is that Paris would like Europe

[†] Germany became an active opponent of the Iraq war only after the French-German summit of January 2003. It is doubtful that Berlin would have opposed the war actively had it been on its own.

to benefit from the same strategic autonomy that it has enjoyed since acquiring nuclear weapons in the 1960s. French leaders are keen to transpose their concept of strategic autonomy through the possession of nuclear weapons to the EU, suggesting since 1994 that Europe will not be fully autonomous without taking into account the nuclear dimension.⁹

The sensitivity of this issue in Germany, in particular, seems to have precluded any in-depth pan-European debate on the subject, at least publicly. Furthermore, in the absence of a single political authority in the European Union, the French are not willing to share the decision to use nuclear weapons with its partners. A future “European deterrent” would entail consultations before use, some measure of risk- and responsibility-sharing, and perhaps a set of common principles for nuclear deterrence, but certainly not, for the foreseeable future at least, a common nuclear force with a single finger on the button.

So far, France has fallen short of declaring explicitly that its nuclear deterrent covers its EU partners. But French leaders have suggested increasingly that the country’s nuclear deterrent already plays an implicit role in the protection of Europe. In January 2006, President Chirac stated that

The development of the European Security and Defense Policy, the growing intermeshing of the interests of European Union countries, the solidarity that now exists between them, make the French nuclear deterrent, by its mere existence, an unavoidable element of the security of the European continent.¹⁰

In March 2008, Sarkozy used almost identical words, but also implied that the “collective solidarity clause” inserted in the new Lisbon Treaty made the existence of French nuclear deterrence even more important for Europe: “By their very existence, French nuclear forces are a key element in Europe’s security. Any aggressor who might consider challenging it must be mindful of this (...) Our commitment to the security of our European partners is the natural expression of our ever-closer union.”¹¹

ROLES, MISSIONS, AND PLANS FOR FRENCH NUCLEAR FORCES

Nuclear forces have a fundamental, but narrow role in French defense policy. Consequently, France deploys relatively small forces but plans to maintain a modern force fully capable of the missions assigned to it.

Roles and missions in French security policy

France takes a fairly traditional approach to the overall concept of deterrence. Few contemporary heads-of-state of nuclear-endowed countries would devote an entire speech to matters related to nuclear deterrence as President Chirac did in January 2006. The White Paper on National Defense and Security that was published in June 2008 has not substantially altered the French stance on nuclear policy.¹² Indeed, President Sarkozy made a speech in March 2008 on strategic issues, which while announcing some reductions in forces and arms control initiatives, essentially reaffirmed President Chirac's statements on the roles and missions of French nuclear forces. President Sarkozy's speech had been informed by the work of the White Paper's commission, which by that time had already examined nuclear questions.

The French nuclear deterrent is intended to cover France's "vital interests." The 1994 White Paper defined them as follows: "The integrity of the national territory, including the mainland as well as the overseas departments and territories, the free exercise of our sovereignty and the protection of the population constitute the core [of these interests] today."¹³ This definition has not substantially evolved, although President Chirac stated in his 2006 speech that "the defense of allied countries" could be part of vital interests.¹⁴

French policy states that an attack on France's vital interests would bring on a nuclear response in the form of "unacceptable damage," regardless of the nature of the threat, the identity of the state concerned, or the means employed. A noted part of President Chirac's 2006 speech was its reference to state-sponsored terrorism:

Leaders of States resorting to terrorist means against us, as those who might consider, one way or the other, weapons of mass destruction, must understand that they risk a firm and adapted response from us. And this response can be of a conventional nature. It can also be of another nature."¹⁵

President Chirac made it clear that France considers that terrorism or weapons of mass destruction would not necessarily represent a threat to the country's vital interests, but that France would not hesitate to use nuclear means should the threshold of vital interests be crossed in the president's view—i.e., if it was clear that this was a state attack. In 2008, President Sarkozy did not reiterate explicitly his predecessor's reference to state-sponsored terrorism, but made it clear that France's deterrent protects the country "from any aggression against our vital

interests emanating from a State – wherever it may come from and whatever form it may take.”¹⁶

Current French doctrine is to deter an attack on its vital interests through the threat of destroying the attacker’s political, economic, and military centers of power. It also includes the option to threaten an adversary who may have misjudged French resolve or miscalculated the limits of French vital interests with a limited strike (“nuclear warning”), aimed at “restoring deterrence.”¹⁷ French military authorities let it be known in 2006 that a high altitude electromagnetic pulse (HA-EMP) strike also could be an option.

French policy makes clear that when referring to deterrence, they are referring to nuclear deterrence; the two words are still very much associated in the nation’s strategic culture. The 1994 White Paper, for example, expressed considerable reservations about the relevance of “conventional deterrence” as a possible substitute for nuclear weapons.¹⁸

France has consistently rejected the adoption of a “no first-use” posture. This has been manifested by reservations attached to the Negative Security Assurances (NSAs) conferred in 1995 by France, as by the other declared nuclear powers, to the non-nuclear State Parties to the NPT. Paris sees nuclear retaliation as being consistent with the right to self-defense, as recognized by Article 51 of the UN Charter, and believes this right would prevail in the case of aggression over commitments of nuclear non-use that had been made in peacetime. France also asserts that countries that do not respect their own non-proliferation commitments—including with respect to chemical and biological weapons—should not expect that the NSA would apply to them. These reservations to the NSAs were reaffirmed in 2003.¹⁹ Similar reservations have been made whenever France ratified protocols to treaties establishing nuclear-weapon-free zones.

French authorities, including President Chirac in 2006, regularly reaffirm that their nuclear forces are solely for deterrence and “are in no way war-fighting weapons.”²⁰ In the eyes of French authorities, doctrinal and weapon system adaptations that were made following the end of the Cold War were necessary to ensure the credibility of deterrence in a wider range of scenarios than were necessary in the past, and did not signify a doctrinal change. In 2006, the then-Chief of the Defense Staff let it be known that a minimum yield for new weapons had been fixed, in order to make it clear that France was not adopting a war-fighting strategy: “We have made sure to limit downwards the yield of the weapons we maintain, so that nobody could ever forget that nuclear weapons are, by their very nature, different.”²¹ In 2008,

President Sarkozy referred to the potential use of nuclear weapons as being possible only in “extreme circumstances of self-defense.”²² The use of this expression, taken from the language of the July 1996 International Court of Justice advisory opinion, carried a subtle message. Even though France is reluctant to consider itself legally bound by political commitments made in the context of the NPT review process, such as the idea of a “diminishing role for nuclear weapons in security policies to minimize the risk that these weapons ever be used,” Paris was keen to show that it has not broadened the role of its nuclear deterrent.²³

Finally, there is a traditional defiance in French policy vis-à-vis missile defenses, for both strategic and budgetary reasons. France defended the Anti-Ballistic Missile (ABM) Treaty until 2001, motivated in part by the concern that demise of the Treaty would prompt Russia and other potential adversaries to bolster their defenses, potentially undermining the French deterrent or at least forcing Paris to increase its financial and technical efforts to maintain the credibility of the deterrent. Meanwhile, budgetary limitations have constrained the attractiveness of missile defenses for France itself.

However, since 2001, Paris has shown an increasing pragmatism in this domain. In 2002, it subscribed to the common NATO decision to conduct a feasibility study regarding a missile defense system for the protection of NATO European territory, forces, and population centers.²⁴ In 2006, President Chirac stated that missile defense could be a complement to nuclear deterrence “by diminishing our vulnerabilities.”²⁵ In 2008, President Sarkozy expressed a similar view: “In order to preserve our freedom of action, missile defense capabilities against a limited strike could be a useful complement to nuclear deterrence, without being a substitute for it.”²⁶ France will thus almost certainly participate in the future NATO missile defense system, be it in a direct way, through its own Sol-Air Moyenne Portée–Terre (SAMP-T) short-range defense systems, or indirectly through technical and industrial inputs by such French companies as EADS and Thales, who are involved in NATO-sponsored studies. In light of France’s long-standing reservations about territorial missile defenses, this is a significant evolution.

CURRENT FORCES AND MODERNIZATION PLANS

Nuclear programs make up about 10 percent of the entire French defense budget and about 20 percent of the country’s military equipment budget. In the 2003-2008 defense plan, on average, the nuclear budget (as voted by the Parliament in 2002) would be €2.8 billion per year. The defense nuclear budget voted for 2008 was €2.3 billion in program authorizations and €3.4 billion in payment credits, including

€1.3 billion earmarked for transfer to the Commissariat à l'énergie atomique (CEA), which fabricates French nuclear weapons.

Since the 1996 defense review, the number of French strategic submarines carrying nuclear-armed ballistic missiles (SSBNs) has been reduced from five to four. Three SSBNs of the second generation have already entered service; the fourth and final boat of this new series is due to enter service in 2010. Out of four boats in the fleet, three are always in the operational cycle, making it possible to maintain continuous patrols at-sea, with at least one vessel on patrol at all times, and even two for protracted periods of time if the president so decided.[‡]

If the force was fully generated, a total of 48 missiles and perhaps some 250-260 warheads on-board three SSBNs would be available. According to open sources, the M45 submarine-launched ballistic missile (SLBM) has a range of at least 4,000 kilometres and can carry up to six TN75 warheads, each in the 100-150 kiloton range, but some SLBMs carry a reduced payload.[§] The fourth new-generation SSBN will be the first to carry the new M51 SLBM, which initially will be the M51.1 version, loaded with the same TN75 warhead. A M51.2 will begin entering service in 2015; it will be armed with the new TNO warhead.

The range of the M51 with a full payload of warheads and penetration aids is reported to be 6,000 kilometres. However, many sources suggest that the missile could have a much greater range with a reduced payload (8,000-9,000 kilometres),²⁷ in particular in its M51.2 version. This would make it able to threaten very distant targets, including in Asia.

France also has two squadrons of land-based Mirage 2000N aircraft and a small naval carrier-based fleet of Super-Etendard aircraft, carrying the 300-kilometre range Air-Sol Moyenne Portée (ASMP) air-breathing missile. The successor to the ASMP is the "improved" ASMP (ASMP Amélioré), which entered service at the end of 2008 and is armed with the new TNA warhead. Rafale aircraft will gradually replace both the Mirage 2000N and Super-Etendard, starting in 2010. The range of

[‡] The period 2008-2010 is an exception to this rule, as during this period France has only three SSBNs, all in the operational cycle. This is due to the retirement of the last SSBN of the first generation, while the fourth new one will only enter service in 2010.

[§] Theoretically, the French SSBN force could carry a total of 288 warheads (three boats with 12 missiles per boat, and six TN75 warheads per missile). The number mentioned here is guesswork, taking into account the fact that in 2006, President Chirac stated that the number of warheads on some of the SLBMs had been reduced, allowing for more flexibility in deterrence planning.

the ASMP-A is reported to be 300-400 kilometres, and its accuracy better than that of its predecessor.

In March 2008, President Sarkozy announced a cut of one-third of the air-based leg of the nuclear deterrent – a significant reduction by French standards. This cut includes weapons, missiles, and aircraft: One of three existing nuclear-trained squadrons is to be disbanded. The decision was driven primarily by a reassessment of deterrence needs in the current and projected international environment. It did not necessarily mean that French analysts foresaw a more benign strategic context. The reassessment took into account the ongoing modernization of the French forces, including the greater flexibility given to the strategic submarines by the new missiles and warheads, as well as the coming into service of the ASMP-A, which has a longer-range and is more accurate, and of the Rafale, a more modern aircraft. The decision also relied on political judgment, namely, “how much is enough” to ensure deterrence.

When critics point out that the United Kingdom has retained only a monad since the end of the Cold War (the last British WE-177 bomb was withdrawn in 1998), analysts favoring France’s status quo note that the UK’s Trident-2 ballistic missile is much more accurate than either the French M45 or the newer M51. They also point out that London’s status within NATO’s military command—which maintains its own air-launched weapons—makes the need for an independent aircraft-based nuclear component less important. Since the United Kingdom anticipates that dealing with a major threat would probably involve the Alliance as a whole, NATO deterrence would involve both UK missiles and US bombs delivered by European and US aircraft.**

As announced by President Sarkozy in March 2008, the current number of nuclear weapons in the French arsenal is less than 300. This is the total number of warheads in the stockpile and not only “operationally available weapons,” a measure cited by the United States and the United Kingdom after their own policy reviews of 2001 (for the United States) and 2006 (for the United Kingdom).

The next generation French warheads—the TNA for the ASMP-A, which entered service in 2008, and the TNO for the M51.2, which will enter service in 2015—are called “robust” warheads in France, as they are less sensitive to variations in

** See Henri Bentegeat in « Rapport d’information fait au nom de la commission des Affaires étrangères, de la défense et des forces armées sur le rôle de la dissuasion nucléaire française aujourd’hui, » page 24. It is anticipated that a reintegration of France in the NATO military structures would not change the status of the French nuclear forces in any way, and that France would not participate in NATO’s Nuclear Planning Group.

performance resulting from the ageing of components. This concept was developed during the 1995-1996 final nuclear warhead test series. The concept is not dissimilar to that behind the proposed US Reliable Replacement Warhead program.

The French “simulation” program is aimed at maintaining an enduring, reliable stockpile without “hot” nuclear testing. It includes in particular a high-power laser (Laser Méga-Joule, LMJ), a powerful X-Ray radiography machine (Accélérateur à Induction pour Radiographie pour l’Imagerie X, AIRIX), and a massively parallel computer architecture, aiming at a 100 Teraflop per second capability in 2010.

While specific weapon adaptations have not been made public, it is widely believed that the French have diversified their yield options in recent years. The option of exploding only the first-stage “primary” of a warhead to reduce the yield may have been exploited, since it is known to be an easy adaptation to make from a technical point of view. However, since 1996, all French weapons are lumped together in a single category of “strategic” systems, providing flexibility in nuclear planning and operations. France considers that any use of a nuclear weapon would be such a major decision that the very notion of “non-strategic” or “sub-strategic” weapons or use does not make sense anymore.

In sum, the French nuclear force is just beginning a transition towards a new generation of missiles and warheads, which will stretch from 2008 until 2020.

THE FRENCH APPROACH TO NUCLEAR ARMS CONTROL AND DISARMAMENT

During the Cold War, France put conditions on its possible participation in multilateral nuclear arms control negotiations. As stated by French authorities in 1983, there were three: (i) a reduction in the quantitative and qualitative difference that existed between the French nuclear arsenal and those of the superpowers; (ii) a reduction in the conventional imbalance in Europe and the global elimination of chemical and biological weapons; and (iii) the end of the offense-defense arms race, with limitations on defensive systems, such as anti-missile and anti-submarine weaponry, capable of neutralizing nuclear deterrence forces. In 1996, President Chirac stated that he still saw no reason to put French nuclear forces on the arms control agenda, mentioning the far greater size of US and Russian arsenals, and the uncertainties about the future of the ABM Treaty and non-proliferation regime.²⁸

France considers its nuclear policy to be consistent with its international legal obligations, including Article VI of the Non-Proliferation Treaty. The head of the French delegation to the 2005 NPT Review Conference stated that his country was

“intent on reaffirming its commitments under Article VI of the Treaty.”²⁹ France maintains its force at a level of “sufficiency” (a French expression broadly equivalent to “minimum deterrent”) and has chosen “not to equip itself with all the nuclear weapons systems it could have given the technological resources at its disposal.”³⁰

However, the French have also adopted a very strict interpretation of Article VI (which was not even referenced in the aforementioned 2005 brochure). France is keen to emphasize the multidimensional character of Article VI, including the goals of cessation of the arms race and of general and complete disarmament. It considers that its actions in favor of biological, chemical and conventional disarmament (including small arms and landmines) are part of its Article VI record – as is its assistance to nuclear threat reduction in Russia.³¹ As far as its own nuclear policy is concerned, the preferred point of reference for French diplomats seems to be the “Decision Number Two” of the 1995 NPT Review Conference, rather than the “Thirteen Steps” of the 2000 Conference.³² President Sarkozy’s disarmament and non-proliferation agenda as laid out in his March 2008 speech is meant to “[take] us forward on the path to both nuclear disarmament and general and complete disarmament,” a clear reference to the inseparability, in French eyes, of the two dimensions of Article VI.³³

France’s firmness on the Article VI issue has been made stronger by the unilateral decisions and moves toward reduced armaments it has made since 1990. France has reduced the size of its arsenal by about 50 percent since the height of the Cold War. The nuclear share of the equipment budget has been reduced by half since 1990 (from about 40 percent to about 20 percent). Paris has reduced its number of nuclear delivery vehicles by two-thirds since 1985 and the number of its SSBNs by two-thirds (from six to four). It is the only one of the five NPT declared nuclear weapon-states to have developed, deployed and then abandoned ground-launched ballistic missiles and to have dismantled its nuclear testing site and fissile material production facilities.^{††} It was the first of the five NPT nuclear powers to support officially the so-called “zero option” for the CTBT – no test whatever the yield. And it was the first of the five, along with the United Kingdom, to ratify the CTBT in 1998.

^{††} The Centre d’Expérimentations du Pacifique is now dismantled. The highly-enriched uranium production facility at Pierrelatte will be fully dismantled by 2010. The plutonium production facility at Marcoule has been disabled and dismantlement has begun; however, for technical reasons, it will be fully dismantled only by 2040.

Public Opinion

France has never had a significant anti-nuclear movement. The French branches of such transnational organizations arguing in favor of nuclear disarmament as Greenpeace are in no way as strong and influential as they may be in other Western countries. Only a small number of grassroots organizations and interest groups devote their work to disarmament. About forty organizations are affiliated with the international Abolition 2000 network. José Bové, France's most well-known "anti-globalization" activist, is "personally in favor of the unilateral abandonment" of the nuclear deterrent.³⁴ The Green party, which became a government force in 1997 in an alliance with the Socialist Party, is the only significant force calling for nuclear disarmament. Its platform calls for a commitment to make Europe a nuclear-weapon-free-zone, a freeze on the nuclear deterrence budget, and the cancellation of the M51 program.³⁵ But the Greens tend to focus their criticism of French nuclear policy on the civilian side – as does the Sortir du nucléaire network, a federation of 765 small local associations. In recent years, due to the evolution of the Holy See's official stance, the Catholic Church has joined anti-nuclear movements in condemning nuclear deterrence and asking for unilateral disarmament. However, bishops remain fairly discreet on this issue – as on most public policy matters due to the strong separation that exists in France between the churches and the state.

A major reason why the anti-nuclear movement in France has never been as strong as in the United Kingdom is that, as suggested above, for the French, nuclear weapons remain the positive symbol of an independent foreign and defense policy, in particular from the United States. French political culture has long identified nuclear technology with independence. Also, the withdrawal from the NATO integrated command in 1967 largely insulated French public opinion from the broader Western strategy debate. During the Cold War, the nuclear debate in Europe was linked with the relationship with the United States and NATO. France was largely spared from this debate and did not have massive anti-nuclear protests. Finally, the French nuclear procurement cycle tends to be spread out over time and rarely lends itself to any critical decision point or moment. The current modernization of nuclear systems, for example, is spread out over more than twenty years. The first new-generation SSBN entered service in 1997; all four of them will be armed with the new-generation warhead only in 2020.

It is therefore not surprising that French public opinion supports the continued possession of nuclear weapons, and that this support has remained fairly high since the end of the Cold War. In June 2007, in response to the question, "Could a country like France ensure its defense without the deterrent force (nuclear force)?" 57 percent answered "No" against 34 percent "Yes." The number of those in favor

of “modernizing” (43 percent) and “maintaining in the current state” (35 percent) of the French deterrent has grown steadily since 2000. Conversely, those in favor of “reducing” are now a small minority (17 percent).³⁶ An Internet poll (4,573 respondents) conducted in October 2006 gave similar results: 71 percent judged that the possession of nuclear weapons by France was “vital” or “useful,” against 27 percent who thought it was “useless” or “dangerous.” The majority believed that nuclear weapons protected the country against military threats, be they nuclear or non-nuclear.³⁷

Prospects for Further Nuclear Reductions

Under what circumstances could France’s arsenal be further reduced? It is to be noted that because the future French SLBM warhead, the TNO, will be bigger and heavier than the current one (the TN75), each M51 SLBM will probably carry a smaller number of warheads than the current M45 SLBM. Thus, after 2010, when the M51 comes into service, a French president may be in a position to say that France is reducing the number of operationally available SLBM warheads.

For France to go significantly further, the international framework of strategic stability and non-proliferation would need to be maintained, and other nuclear weapon states would need to be ready to participate as well. As President Chirac stated in 2006, “it is obvious that we will only be able to go forward on the road towards disarmament in the event that the conditions of our overall security are maintained and if the will to make progress is unanimously shared.”³⁸ This position was reaffirmed by French representatives to the 2008 NPT Preparatory Committee.³⁹ President Sarkozy also insisted in 2008 that collective security and disarmament should be based on “reciprocity.”⁴⁰ Implementation of the Sarkozy initiatives of March 2008, which include, inter alia, the closing down of all testing sites and fissile material production installations by all states possessing nuclear weapons, might create a favorable atmosphere, but there is no reason why they, in themselves, would lead France to further reduce its arsenal.

What about the impact of further US and Russian reductions? France indicated in 2005 that if “the disproportion [between its forces and those of the US and Russia] changed its nature, it could envision to draw consequences” from such an evolution.⁴¹ If the United States and Russia reduced their arsenals to, say, about 1000 nuclear weapons each, it is doubtful that France would immediately feel compelled to reduce its arsenal. France’s weapons are not intended to seek to destroy the nuclear forces and conventional arsenals of other countries. Therefore, French political leaders have stated repeatedly that the level of the country’s arsenal is not dependent upon those of others.

On the other hand, if following such significant reductions in US and Russian arsenals, there was then a serious proposal initiated or supported by the United States to seek multilateral and proportional reductions, the French position might change. For political reasons, France would probably not ignore a general trend towards drastic nuclear reductions – especially if British, Chinese and French participation was a precondition for Moscow and Washington to move in this direction. In such a case, France might then perhaps be willing to move to a British-like posture: eliminating its aircraft delivered weapons and maintaining four SSBNs only, with a stockpile of perhaps no more than 150-200 warheads.

The Possibility of Reducing to Zero

Given the importance of nuclear weapons for France, the abandonment of nuclear deterrence by Paris is an extreme hypothesis. What could be the extraordinary circumstances under which France would give up this capability? Three different scenarios need to be envisioned.

Scenario One: Abolition by Example

Abolition by example is hardly a credible scenario. A British decision to give up its own deterrent, for instance, would not be enough: The “exemplary effect” that could be expected would in all likelihood be offset by the realization that France would then be the sole nuclear power in Europe – probably giving it a greater sense of responsibility, as well as a new status on the continent. An American decision to renounce nuclear weapons would be different – but France would still claim that it is the forces of its adversaries that matter for French decisions, not those of its allies.

Scenario Two: A Unilateral Decision to Disarm

A unilateral decision by Paris to disarm is hardly credible either. A consistent feature of the French nuclear stance is the insistence on the need to retain nuclear weapons as long as other states can pose a major military threat to France. This was made clear at several occasions by various French leaders. As early as 1961, President de Gaulle said that “as long as others have the means to destroy her, [France] will need to have the means to defend itself.”⁴² In 1998, Prime Minister Lionel Jospin said that “as long as general and complete disarmament will not be realized, nuclear weapons will remain necessary [for France.]”⁴³ Finally, in 2000, President Jacques Chirac said that “as long as risks persist and we have not achieved general and verified disarmament, which does not concern nuclear weapons alone, France will retain the capability to protect itself from any threat to its vital interests.”⁴⁴

Nevertheless, the circumstances under which potential major threats to the security of France have disappeared can be imagined. A first prerequisite would be a fully democratic Russia, firmly entrenched in the “Western camp” in terms of fundamental values and policies. As the biggest nuclear power in Europe’s neighborhood, Russia’s status is the most important feature of France’s strategic environment. A second condition would be that proliferation is being “rolled-back” convincingly. The risks of short- to medium-term nuclear proliferation in the Middle East and North Africa would have to disappear. The development of medium- and long-range ballistic missiles in the same region would need to have ceased, as well. This does not mean that all major threats would have disappeared – only that the calculus of costs and benefits of maintaining a nuclear deterrent would then be drastically changed, to the point that it would be difficult for a French government to fund and prepare the “generation after next” of nuclear forces, those which would need to be fielded in the 2030s.

The continued possession by the United States of a nuclear deterrent might help a French decision to go to zero. The US extended deterrent to Europe would remain a “last line of defense” in case of a sudden and dramatic reversal of the strategic environment. In other words, paradoxically, a French decision to forego its nuclear arsenal may be impossible if the United States was to disarm unilaterally.

Scenario Three: A US-led Initiative to Go to Zero

France’s participation in a coordinated move toward zero would be another extreme scenario. However, it is possible to imagine the conditions under which Paris would willingly participate in such a move.

The prospect of a major proliferation wave among Europe’s regional neighbors would not suffice for Paris to consider abolition. If they confronted a proliferation “cascade,” as has been speculated upon as a possible reaction to Iran’s acquisition of a nuclear weapon capability, the French reaction would be, “better a bird in a hand than two in the bush;” that is, French officials would believe that the safer bet would be to maintain France’s nuclear deterrent rather than participating in a global attempt to abolish nuclear weapons. They would maintain that if there were a serious possibility of a world with 30 nuclear powers, then the political conditions for the global abolition of nuclear weapons would hardly be present.

For France to go along with a US initiative to abolish nuclear weapons, there would need to be a dramatic improvement in the international environment.^{‡‡} The coming into force of the CTBT and of a Fissile Material Cutoff Treaty would probably be essential components of such an improvement. Also, nuclear proliferation would have had to be stopped demonstrably and verifiably, and France would have to be convinced that all nuclear-capable states were ready to participate in a global move towards zero.

From a French point of view, there also would also need to be significant progress towards non-nuclear stability and disarmament. This would require, at the least, fully implementing and maintaining such existing instruments as the Conventional Forces in Europe Treaty, the Biological and Toxin Weapons Convention, and the Chemical Weapons Convention. A limitation on ballistic missile proliferation would also need to be ensured, and a NATO missile defense architecture which could effectively shield Europe from any significant missile attack (whatever the payload such missiles would carry) might be needed as an insurance policy. A democratic evolution in Russia, better relations between Moscow and its immediate neighbors, as well as the political stabilization of the greater Middle East region—from Morocco to Pakistan—would certainly be needed to help France consider a move toward zero.

Scenario Four: A “Great Powers” Initiative to Go to Zero

A variant of the previous scenario might alter the perspective. While Paris would find it easy to resist a US-only initiative—as it has done in the past on many different occasions—it would be more difficult politically to do so if both Russia and China also took part in it. Beijing’s participation would be seen as critical, because it would then imply very strong pressure on New Delhi, and therefore on Islamabad, to give up nuclear weapons, as well.^{§§} Pressure on Pakistan would also work indirectly through China, which would probably use its full weight to obtain Islamabad’s cooperation.

In such a dramatic scenario, there would in all likelihood be strong pressures from within the European Union for France to follow suit. Assuming the United Kingdom was ready to play along, there would then be very strong pressures from such key countries as Germany, Italy, Spain, and Sweden, in which public

^{‡‡} One alternative might be a scenario in which nuclear use had taken place and triggered a general trend towards general nuclear disarmament.

^{§§} France could probably live with the idea that Israel would remain nuclear as long as there is no durable peace in the region. And North Korea would not pose a direct problem for Europe’s security as long as it does not have ICBMs.

support for nuclear deterrence has never been very strong. Only some East European countries, such as Poland and the Baltic States, might refrain from such pressures, given their traditional fear of Russia – which may lead them, in the absence of a US nuclear guarantee, to see UK and French forces with increased sympathy. Given France’s determination to continue to be one of the key political actors in Europe, such political pressure would be hard to resist. Before giving up its arsenal, however, Paris would certainly attempt to secure its existence for several years, waiting for concrete disarmament steps by the major nuclear players – notably the United States and Russia, given the size of their arsenals – and for proof that verification measures would be effective.

CONCLUSION

In sum, the only credible circumstances where France would be willing to seriously consider the global abolition of nuclear weapons are those in which there is no foreseeable major threat against its vital interests and those of its European partners. However, it would be difficult for Paris to stay away from a coordinated US-Russia-China initiative to begin negotiations for a treaty to eliminate nuclear weapons from all nations.

ENDNOTES

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- ¹ Allocution de M. Jacques Chirac, Président de la République, lors de sa visite aux forces aérienne et océanique stratégiques, (Landivisiau – l'Île Longue (Brest), 19 January 2006).
- ² Allocution de M. Jacques Chirac, *op. cit.*
- ³ Allocution de M. Lionel Jospin, Premier Ministre, devant l'Institut des Hautes Etudes de Défense Nationale (Paris: 22 October 1999).
- ⁴ Quoted in Dominique Mongin, *La bombe atomique française 1945-1958* (Brussels: Bruylant, 1997), page 333.
- ⁵ Quoted in Georges-Henri Soutou, "La politique nucléaire de Mendès-France," *Relations Internationales*, Vol. 59 (Fall 1989), page 320.
- ⁶ General Alfred Buchalet, "Les premières étapes, 1955-1960," in Université de Franche-Comté/Institut Charles de Gaulle, *L'aventure de la bombe: De Gaulle et la dissuasion nucléaire 1958-1969* (Paris: Plon, 1985), page 52.
- ⁷ «Discours de M. le Président de la République – Présentation du SNLE Le Terrible » (Cherbourg), 21 March 2008.
- ⁸ Allocution de M. Jacques Chirac, *op. cit.*
- ⁹ Livre Blanc sur la Défense 1994 (Paris: Editions 10/18, 1994), p. 98.
- ¹⁰ Allocution de M. Jacques Chirac, *op. cit.*
- ¹¹ Discours de M. le Président de la République, *op. cit.*
- ¹² Défense et sécurité nationale: le Livre blanc (Paris: éditions Odile Jacob, 2008).
- ¹³ Livre blanc sur la Défense 1994, op. cit., page 4.
- ¹⁴ Allocution de M. Jacques Chirac, *op. cit.*
- ¹⁵ Allocution de M. Jacques Chirac, *op. cit.*
- ¹⁶ Discours de M. le Président de la République, *op. cit.*
- ¹⁷ Discours de M. le Président de la République, *op. cit.*
- ¹⁸ See Livre Blanc sur la Défense 1994, *op. cit.*, page 99.
- ¹⁹ See Rapport de la France sur l'application de l'article VI et de l'alinéa C) du paragraphe 4 de la décision de 1995 sur les principes et objectifs de la non-prolifération et du désarmement nucléaires, Deuxième session du comité préparatoire de la conférence d'examen du TNP de 2005 (Geneva), 30 April 2003.

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- ²⁰ Conférence de presse conjointe de M. Jacques Chirac, Président de la République et de Mme Angela Merkel, Chancelière de la République Fédérale d'Allemagne à l'occasion de la rencontre franco-allemande (Versailles), 23 January 2006.
- ²¹ Henri Bentegeat, in *Rapport d'information fait au nom de la commission des Affaires étrangères, de la défense et des forces armées sur le rôle de la dissuasion nucléaire française aujourd'hui*, par M. Serge Vinçon, Sénateur, Document n° 36 (24 October 2006), page 25.
- ²² Discours de M. le Président de la République, *op. cit.*
- ²³ 2000 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, Final Document, Volume I, NPT/CONF.2000/28 (New-York, 2000), page 15.
- ²⁴ See Prague Summit Declaration, Issued by the Heads of State and Government participating in the meeting of the North Atlantic Council in Prague on 21 November 2002, para. 4.
- ²⁵ Allocution de M. Jacques Chirac, *op. cit.*
- ²⁶ Discours de M. le Président de la République, *op. cit.*
- ²⁷ See for instance *Jane's Strategic Weapons Systems, M-5/M-51* (23 June 2006), and Jean-Dominique Merchet, « Premier tir d'essai 'réussi' du missile stratégique M51 », *Libération* (10 November 2006).
- ²⁸ Discours du Président de la République, M. Jacques Chirac, à l'Institut des Hautes Etudes de Défense Nationale (Paris), 8 June 1996.
- ²⁹ 2005 Review Conference of the State Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, General Debate, Statement by H. E. M. François Rivasseau, Ambassador, Permanent Representative of France to the Conference on Disarmament (New-York), 5 May 2005, page 7.
- ³⁰ Ministère de la défense, Secrétariat général de la défense nationale, & Ministère des affaires étrangères, *Fighting Proliferation, Promoting Arms Control and Disarmament : France's Contribution* (2005), page 64.
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- ³² See 2005 Review Conference of the State Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, General Debate, Statement by H. E. M. François Rivasseau, Ambassador, Permanent Representative of France to the Conference on Disarmament (New-York), 5 May 2005.
- ³³ Second Session of the Preparatory Committee for the 2010 NPT Review Conference, Statement by H.E. Ambassador Jean-François Dobelle, Permanent Representative of France to the Conference on Disarmament, Head of the Delegation, "Cluster 1" (Geneva), 30 April 2008.
- ³⁴ José Bové, interview to I-TV television channel, « Le Franc-Parler », 30 October 2006.
- ³⁵ Les Verts, « Le monde change, avec les Verts changeons le monde » (3 August 2006), page 78.

³⁶ Annual poll by BVA for the French Defense Ministry. The data for 1991-2006 was published in *Les Français et la Défense : 15 ans de sondages (1991-2006)* (Paris : Ministère de la défense, Délégation à l'Information et à la Communication de la Défense, May 2008). The data for 2007 are not yet publicly available but were communicated privately to the author.

³⁷ Opinion poll conducted by Expression Publique, October 2006.

³⁸ Allocution de M. Jacques Chirac, *op. cit.*

³⁹ See Second Session of the Preparatory Committee for the 2010 NPT Review Conference, Statement by H.E. Ambassador Jean-François Dobelle, Permanent Representative of France to the Conference on Disarmament, Head of the Delegation, "Cluster 1", Geneva, 30 April 2008.

⁴⁰ Discours de M. le Président de la République, *op. cit.*

⁴¹ Conférence des Etats Parties chargée d'examiner en 2005 le Traité sur la Non-Prolifération des Armes Nucléaires, Comité I, Intervention prononcée par S.E.M. François Rivasseau (2005).

⁴² Press conference, 11 April 1961, in Charles de Gaulle, *Discours et Messages*, vol. III (Paris: Plon, 1970), page 72.

⁴³ Discours du Premier ministre, M. Lionel Jospin, à l'Institut des Hautes Etudes de Défense Nationale, 3 September 1998.

⁴⁴ Jacques Chirac, interview to *Armées d'Aujourd'hui*, January 2000.

THE UNITED KINGDOM

BRITISH PERSPECTIVES ON NUCLEAR WEAPONS AND NUCLEAR DISARMAMENT

Sir Lawrence Freedman

Of all the established nuclear powers, Britain has appeared for some time to be the best placed to abandon its nuclear status. It has achieved this through its strategy of a minimum deterrent with a marginal strategic rationale. Here, “minimum” is defined as the smallest force sufficient to threaten retaliation credibly in the event of an attack on the United Kingdom. Credibility is never a truly objective test, so there will always be debate about how low it is prudent to go, but at some point there will be no more scope for further cuts before the force’s implausability is undeniable. The choice is no longer one of an increasingly smaller force, but any force at all. Britain’s nuclear capabilities now consist solely of a fleet of ballistic-missile carrying submarines (SSBNs). These have the requisite second-strike capability, but are also subject to block obsolescence. Regular opportunities do therefore arise for a clean break with the country’s nuclear arsenal. Although a decision to replace the current SSBNs has been taken in principle, it will not be until 2012 that the most substantial investment decisions will need to be taken. It would therefore be more straightforward for Britain to cease to be a nuclear power than for any other of the first five weapon states.

Not only could Britain abandon its nuclear capability with less trouble than others, but its sole rationale for retention depends on continuing to live in a world of actual and potential nuclear powers, some of which may become hostile. Without a national nuclear strike force at some future point, the country’s most vital security interests might be endangered by an unspecified antagonist. Actual scenarios in which Britain’s status as a nuclear state might make the difference have been left vague. Arguments of this sort create a potential internal responsiveness to changes in the strategic environment greater than those for other established nuclear powers. There are no overriding rationales for Britain’s nuclear forces geared to non-nuclear contingencies, other than possibly chemical or biological warfare. British governments also have been wary about arguing that a nuclear status translates readily into greater political status, for example by confirming the country’s standing as a great power or creating a special position in discussions on alliance or disarmament issues. Successive governments have accepted, at least in public statements, that even if nuclear status does create special negotiating rights and

privileges, it would not be sufficient grounds to justify the expense of maintaining the forces or give credibility to operational preparations. Lastly, British governments have asserted officially a readiness to abandon nuclear weapons in the event of an international nuclear disarmament agreement.

THE EVOLUTION OF BRITISH NUCLEAR CAPABILITIES

The question of Britain's nuclear status tends to come to the fore when decisions have to be made about future capabilities. After Britain opted for a submarine-based force in the early 1960s, it reevaluated its nuclear status when options for the replacement of the Polaris fleet were considered at the start of the 1980s and again when options for the future of Trident were evaluated in the mid-2000s. The only time when changes in the strategic environment prompted a major review of nuclear policies came after the end of the Cold War. In this section, I review the key decisions taken over the past three decades.

During the Cold War: Polaris to Trident

The first occasion when Britain had cause to consider its role in the nuclear business came in 1962 when the Kennedy Administration abruptly cancelled the Skybolt air-launched missile upon which the future of Britain's V-bomber force had come to depend.¹ President Kennedy bailed out his ally, Prime Minister Harold Macmillan, by providing instead the Polaris submarine-launched missile, which turned out to be a far more reliable basis for a long-term deterrent, as it was relatively invulnerable to a surprise attack and was posed few problems by Soviet defenses.

Although the Labour Party in opposition had questioned the Polaris agreement, in government in 1964 it did no more than abandon an option to build a fifth SSBN, keeping the force at four boats. This was considered sufficient to ensure that, taking into account of long refits and rests between patrols, there was always one submarine on patrol at any time. This has remained the standard for a minimum national deterrent. After a couple of inconclusive nuclear debates in Parliament—in 1964 and 1965—there was no full debate on the nuclear force until 1980 and little parliamentary scrutiny of the Polaris program. With regard to the future, both Labour and Conservative governments confined themselves to statements to the effect that the effectiveness of the force would be maintained and that there would be no move to a new generation of weapons. Both parties thus supported the decision not to follow the US and buy the Poseidon missile to replace Polaris, but instead chose to upgrade the Polaris front-end to make it more capable of penetrating Soviet ballistic missile defenses. This was the Chevaline program,

which placed two warheads plus decoys atop each Polaris missile.* Otherwise, the Polaris force did not appear to be excessively expensive, as the main costs were those of operations and maintenance and so did not raise questions of priorities in an acute form.

The question of replacement of the Polaris force again arose toward the end of the 1970s. True to tradition, Prime Minister James Callaghan explored the options for replacement by means of small unofficial committees of responsible—and reliable—ministers. He also had preliminary discussions with President Carter at the Guadeloupe summit of January 1979. In his memoirs, he makes it clear that he would have opted for the system chosen by the incoming government—the Trident C4.² For Margaret Thatcher, prime minister from May 1979, as for Callaghan, the issue of Polaris replacement was more one of how rather than whether. The approach was to exploit American economies of scale and the infrastructure originally created for Polaris, relying still on the relative invulnerability of sea-based systems to surprise attack and the ability of multiple warheads to penetrate Soviet defenses. In July 1980, the British government announced that Britain's nuclear deterrent of four nuclear-powered submarines, each carrying 16 Polaris missiles, would be replaced by a similar number of missiles on a similar number of submarines, but the new missiles would be the most modern in the American arsenal—the Trident C4—and they would be accommodated on new and larger submarines. In March 1982, it was further announced that Britain would continue to follow American nuclear policy by upgrading from the C4 version of Trident to the even more modern D5.³ This would allow for longer range (up to 6,000 miles) and even more warheads, although the government took care to stress that it was not anxious to maximize the warhead potential. The missiles would be American: Britain would build its own submarines and nuclear warheads. One American estimate suggested that without US help, the cost of the missile part of the program would rise from \$2.5 billion to \$6.5 billion.⁴

After this decision was announced there was a public debate about whether Britain, no longer such a great power, really needed a nuclear arsenal at all. The argument that it did not was picked up by the Labour Party in opposition. For most of the

* During this period of silence, little was written by the strategic studies community in Britain on national nuclear policy. For rare examples see, John Groom's, *British Thinking about Nuclear Weapons* (London: Frances Pinter, 1974) and Emanuel de Kadt, *British Defence Policy and Nuclear War* (London: Frank Cass, 1964). In 1970, Ian Smart analysed the possibility for Anglo-French nuclear cooperation in *Future Conditional: The Prospect for Anglo-French Nuclear Cooperation* (London: IISS, 1970). In 1974, two Adelphi Papers by Geoffrey Kemp analysed some of the policy options although without relating them directly to the broad issues of British policy: *Nuclear forces for Medium Powers, Part I, Targets and Weapons Systems, Parts II and III, Strategic Requirements and Options*, Adelphi Papers 106 and 107 (London: IISS, 1974).

1980s, the “defense” issue in British politics was the future of the country's nuclear deterrent. Labour provided a functional, as much as a moral, critique. Trident was criticized for being excessively sophisticated, with its long-range and accurate multiple-warheads, and far too expensive. In practice, there was no obvious successor to Polaris other than Trident that would be less expensive. The main alternatives debated tended to be based on Polaris itself (cloning the old system or upgrading it to take advantage of technological advances), or cruise missiles, to be either ground-launched or submarine-launched. The financial savings offered by these alternatives appeared less than might be expected, as large proportions of the costs were in the launch platform and the warhead, and were qualified by the risk of expensive delays in any indigenous development effort or by the lower life-expectancy of systems based on obsolescent technology. Where savings could be achieved (particularly with ground-launched cruise missiles), it was largely by relaxing the survivability criterion and the threat this posed to the Soviet Union, which could mean a less-than-minimum deterrent.

In the harsh economic conditions of the early 1980s, Trident's price-tag, which initially was put at £5 billion and soon went up to £7.5 billion, could be presented as a gross extravagance, even inimical to the wider defense effort, for it would use up a large chunk of the available funds for new conventional military equipment. At a time when NATO was talking of relying more on conventional and less on nuclear forces, Britain would be moving its defense priorities in exactly the opposite direction.[†] The government's position, as stated by Secretary of Defence Nott, was that while “money spent on Trident is money that is not spent on something else,” Trident could be justified on the question of priorities.

I find it hard to understand those who argue against Trident on the utilitarian ground of deterrent cost-effectiveness. If one asks which will give more pause to an adversary contemplating aggression—Trident or an increase in our conventional forces—the answer is plain.⁵

The difficulty with the economic critique was that it was most powerful during the early stages of the program. As money was spent and committed, the potential for savings gradually declined. Eventually, a point was reached at which it would cost almost as much to get out of the nuclear business as to stay in it. Here, the

[†] The expenditure was made up of 12 percent on missiles, 30 percent on submarines (less weapon systems equipment), 16 percent on weapon systems equipment (including tactical weapons), 12 percent on shared construction and 30 percent on warhead design and production, and contingency. Fourth Report from the Defence Committee, Session 1980–81, *Strategic Nuclear Weapons Policy*, June 1981, p. xiv.

government was helped by Trident staying on schedule and within budget. If the Trident program were abandoned then, additional money in the form of cancellation charges, the costs of converting the new submarines to something other than the carriage of ballistic missiles, and the de-commissioning of Polaris and its nuclear warheads would have to be factored in. The result would have been to make the short-term budgetary burden of Britain's nuclear forces more severe than if it continued as planned. There would have been savings over the longer term, but in defense terms they would not have been large.⁶ In a "leak" during the 1987 campaign, it was reported that Ministry of Defence (MoD) estimated of the cost of implementing the Labour Party program to decommission Polaris and other UK nuclear systems at £2 billion.⁷ Estimates suggested that it would take some three to five years to disarm the nuclear warheads in the stockpile and recycle the fissile materials. Even then, the secrets of nuclear weapons would remain. However, once the design teams at Aldermaston had disbanded, it would be extremely difficult to rebuild Britain's nuclear capability.⁸

After the Conservatives returned to office with another large majority in the June 1987 general election, Britain was confirmed as a nuclear power. Had the result had been different and the Labour Party won, the Polaris submarines then on patrol would have been called back and the Trident program would have been cancelled, at least according to official policy. What would have happened to American nuclear forces based in Britain we will never know, for the party manifesto, issued at the start of an election campaign and the closest thing a new government has to a mandate, was ambiguous on that point. In any event, with the Conservatives re-elected, Britain's nuclear status was more securely based than ever before. In addition, the opposition parties were obliged to rethink their nuclear policies because of their evident unpopularity during the election campaign and in response to the momentum behind the Trident program. Labour Party internal appraisals of its performance in the 1987 election suggested that its anti-nuclear defense policy lost the support of up to five percent of the electorate.

Over this period, Britain became even more dependent on its SSBN force. The 56 Vulcan bombers were phased out in the early 1980s, thereby removing the last alternative strategic nuclear capability. The Vulcans were already old and expensive to run in terms of both men and fuel, and the RAF replaced them with Tornado aircraft. Although nuclear-capable, Tornados lacked the range of Vulcans and could not be considered for serious operations against the Soviet Union. The Tornados also replaced three of the five squadrons of Buccaneer aircraft, which, with four squadrons of Jaguars, could deliver free-fall nuclear bombs (as well as conventional weapons) from bases in Britain and Germany. At this time, the Royal Navy also operated maritime helicopters capable of delivering nuclear depth-bombs.

The Sea Harrier aircraft squadrons, which operated from the new Invincible-class carriers, were also capable of delivering free-fall nuclear bombs.

At this time, Britain also maintained systems of smaller yield and lesser range that were variously described as “tactical,” “theatre,” or “sub-strategic” nuclear systems. By the end of the Cold War in 1989, this arsenal was made up of the WE-177 “family,” with different characteristics having come in at different dates, including the nuclear depth-charge (WE-177C) as well as the RAF’s free-fall bombs (WE-177A and B). The weapon was developed in the early 1960s and the first WE-177s were delivered to the RAF in 1966–67. Thereafter, more than 180 were produced up to 1982, of which 20-30 were “C” variants. Production continued at Aldermaston and Burghfield until 1978, when manufacturing lines began to produce warheads for Chevaline.⁹ Their yields were between 10 and 200 kilotons. The yield was probably closer to the lower end than to the upper number, if only because of German concerns about the use of high-yield weapons in their defense. Tornados were normally assumed to carry two WE-177 bombs. A 1989 estimate put the total number of sub-strategic weapons at 180.¹⁰ Britain also operated American systems under ‘dual-key’ control arrangements: Four squadrons of Nimrod maritime patrol aircraft equipped with nuclear depth-bombs and four Army regiments in Germany, one of Lance missiles, and three of dual-capable artillery, all employing American warheads.

After the Cold War

Retention but Retrenchment

If the Polaris replacement decision had come a decade later, it is by no means clear, given the optimism of the early 1990s, that a decision would have been made in favor of Trident. By this time, however, the major investments had been made and the first SSBNs would soon be ready to deploy. Instead, the government decided to find a new minimum level for its deterrent.

Because of the capacity of the Trident missiles, the number of warheads in the British strategic nuclear arsenal was scheduled to rise over the 1990s. The government promised to keep warhead numbers down as an informal response to the changing political climate. This promise may also have been influenced by production problems with the warheads. Just before it entered service, Secretary of Defence Tom King confirmed that Trident would not “carry the maximum” number of warheads:

We have long emphasized that each Trident submarine would carry no more than 128 warheads. This has always been an upper

limit, not a specification: the number to be deployed in the mid-1990s onwards will be decided in the light of circumstances at the time.¹¹

His successor, Sir Malcolm Rifkind, later indicated that the new force would not carry the maximum number of warheads, but would be closer in total destructive power to the Polaris capability. In practice, this still meant more warheads than Polaris, as each was of lower yield.¹²

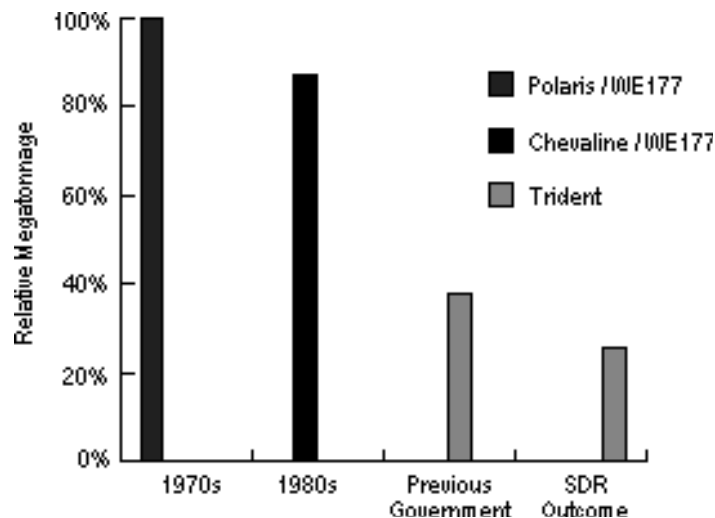
The post-Cold War pressures for a minimal deterrent were reflected much more in the non-strategic arsenal than the strategic arsenal. All short-range, land-based systems (which were dual-key) were abandoned.[‡] In the autumn of 1991, it was announced that nuclear weapons would no longer be deployed on Royal Navy ships “in normal circumstances.” This was made more permanent in 1992.¹³ The 20-30 nuclear depth bombs, intended for use at sea with Lynx and Sea King helicopters, were destroyed, and RAF Nimrod maritime patrols with American nuclear depth charges were terminated.¹⁴ Reductions also were announced from 11 Tornado and 4 Buccaneer squadrons to four Tornado squadrons based in the United Kingdom and four in Germany. The number of WE-177 free-fall bombs available for these aircraft was cut by half.¹⁵ Plans to develop up to 200 new stand-off missiles with a range of up to 600km to succeed the WE-177 were also abandoned. (In addition, the WE-177 was scrapped in 1998.)

The Labour Party’s 1997 manifesto promised retention of Trident, strength in “defense through NATO,” and “a strategic defense and security review to reassess our essential security interests and defense needs.”¹⁶ After a resounding win in the general election, the Labour government under Prime Minister Tony Blair set in motion a strategic defence review (SDR). This was never intended to reappraise the Trident program, although it did provide the fullest account of UK nuclear capabilities yet published. The bill for Trident had been largely paid: A significant portion of future nuclear expenditure would be used to decommission old weapons and facilities and would have had to be spent even if Trident itself was abandoned. Nonetheless, the drive to push down numbers continued. It was decided that each of the four Trident submarines would now carry no more than 48 warheads, down from 96. This reduced the explosive power of the warheads on a new SSBN to “one

‡These included four batteries of three Lance short-range missiles, plus 16 M-110 203mm self-propelled howitzer and 101 M-109 155mm self-propelled howitzer. The M-110 launched a shell of 2 kilotons to a distance of 14 kilometres with accuracy from 0.04 to 0.17 kilometres depending on the range. The M-109 had comparable accuracy and a slightly longer range with a yield of 2 kilotons. The 50 Missile Regiment and the 56 Special Weapons Battery Royal Artillery were disbanded.

third less than a Polaris submarine armed with Chevaline,” although individually the warheads would be more lethal as they could destroy individual targets.

During the 1980s, the number of operationally available warheads was around 400. Under the previous Conservative government, this was to have gone down to 300. As a result of Labour’s SDR, the number of operationally available warheads was to be less than 200. The chart below, taken from the 1998 SDR, compares the explosive power of the UK’s operationally available weapons during the 1970s and 1980s with previous plans for 1999 and the SDR decisions.¹⁷ Thirty percent of the 1970s figures would suggest something equivalent to about 20-30 megatons (million tons of TNT). This would leave Britain with the smallest stockpile of all the established nuclear powers, with a total yield representing less than 1 percent of the global total.



1998 Strategic Defence Review, para. 64.

After looking at a range of alternatives, in the end it was decided to configure Trident for possible use in a sub-strategic role, though this would be an enormously expensive method of delivering a small warhead. The 1998 Strategic Defence Review defined a “sub-strategic” role as, “an option for a limited strike that would not automatically lead to a full scale nuclear exchange.”¹⁸ Uniquely for an established nuclear state, Britain relies on only one weapon system. Although, according to one report, in 2000 President Clinton authorized 110 bombs to be retained at the American operated based at RAF Lakenheath, following a 2004

decision to reduce all stocks held in Europe, the last US nuclear weapons were removed from Britain in 2008.¹⁹

In a move to identify the minimum in operational terms, the policy would remain to keep one submarine always on patrol. It would, however, operate on a “reduced day-to-day alert state.” The government argued for maintaining a continual operational patrol largely on the grounds that if it did not do so, then a sudden return to sea could aggravate a crisis by appearing provocative. The full possible meaning of a “minimum” deterrent was explored further by not running the submarines intensively and by operating with only one crew per boat (compared with two during the Cold War). The missiles would not be on quick reaction alert but kept days away from operational readiness and not targeted against anyone in particular.

The 2007 Decisions

The HMS Vanguard entered service in December 1994, the HMS Victorious a year later, the HMS Vigilant in June 1998, and the HMS Vengeance in February 2001.[§] Although the new boats had not been long in service, by the Labour government’s third term it was arguing that early preparations were needed for replacement submarines lest the system become obsolete by the 2020s. Although the government claimed to be investigating all options, there was never much doubt that any replacement would follow the same path as before with a submarine-based system. There was no longer a serious air-based option and ground-based options all failed tests of survivability to first strikes.²⁰ Following a familiar path also strengthened confidence in cost estimates, which could be assumed to be comparable to the Trident program, taking account of inflation, and coming in at £15 billion for research, development and production, with a further £10 billion to cover the rest of the costs over the subsequent twenty years of operations. These estimates depended on continuing cooperation with the United States.^{**} There were obvious opportunity costs, but it would be hard to argue that a country of Britain’s economic strength could not afford this amount if it considered nuclear weapons essential to its security. At the end of 2006, the Labour government produced a White Paper setting out the case for retention of the nuclear deterrent.²¹

This led to a debate that previous generations of Labour leaders would have avoided at all costs, but it was surprisingly muted. The best argument in favor remained uncertainty and continuity. With the background noise of North Korea’s and Iran’s

[§] Each submarine weighs approximately 16,000 tonnes, is 150 metres in length, is powered by a Rolls Royce PWR2 nuclear reactor, and has 16 independently-controlled missile tubes which house the missiles.

^{**} In 2004, President Bush and Prime Minister Blair signed an agreement extending US/UK nuclear cooperation for another ten years.

nuclear exertions, it was politically challenging to argue that this was the moment for Britain, alone among the nuclear powers, to abandon its nuclear status. The best argument against modernizing Trident appeared to be that the expenditure would be wasteful and meet no evident security purpose. As both sets of arguments were speculative, the debate was conducted with little passion and scant public interest. Labour dissidence was not as high as with the 2003 Iraq vote, although when the vote came in March 2007, Conservative support was still necessary for a majority.^{††}

To mollify his backbenchers, Prime Minister Blair indicated that, “it is always open to us to come back and look at these issues.” Blair spoke of a “gateway stage-between 2012 and 2014,” after the design and concept phase for the new program was completed and when the main contracts for design and construction would have to be let. Furthermore, the renewal program could be cancelled, “should there be a fundamental change for the better in the strategic environment.”²² According to Foreign Secretary Margaret Beckett,

Today's decision does not mean that we are committing ourselves irreversibly to maintaining a nuclear deterrent for the next 50 years, no matter what others do and no matter what happens in the rest of the world. That would be absurd, unnecessary and, indeed, incompatible with the nuclear proliferation treaty.²³

She indicated that there were future decisions to be made about whether to renew or replace the warhead, whether to participate in any American programs to develop a successor to the D5 missile, and the precise design of the submarine and whether four or three should be procured.²⁴

There is one interesting angle on future nuclear decisions that is worth noting. Britain's Trident fleet is largely run out of Scotland's nuclear base, Her Majesty's Naval Base Clyde. Scottish opinion, including the Scottish National Party, which runs the devolved Scottish government in Edinburgh, has always been more skeptical about the need for nuclear deterrence than the rest of the UK. On 14 June 2007, the Scottish Parliament voted against renewing Trident by a 71 to 16 vote, with only the Conservatives in favor and most Labour members abstaining, other than five who voted with the opponents. A working group, chaired by Bruce Crawford, the Minister for Parliamentary Business, was established with an extremely broad remit, which includes questions of the legality of nuclear weapons

^{††} 409 MPs supported the proposals, and 161 were against, including 88 Labour backbenchers, a majority of 248. In 2003, 138 Labor MPs voted against the Iraq war. http://news.bbc.co.uk/go/pr/fr/-/1/hi/uk_politics/6448173.stm.

and how to promote international peace and reconciliation, as well as more mundane but potentially significant issues, such as the licensing and regulatory framework relating to the main nuclear submarine base on the Clyde and the economic impact of ending its nuclear weapons role.²⁵ At least one member of the group (Professor William Walker) is an acknowledged academic authority on nuclear weapons issues, and there is one leading anti-nuclear campaigner from an NGO (Dr. Rebecca Johnson). The other members are largely from trade unions and religious groups. In practice, little could be done about this issue by a devolved government, because defense and foreign policy are reserved powers under the 1998 Scotland Act. However, it would be an issue that an independent Scotland would undoubtedly address. There are questions of transport and planning over which it has some influence, but any attempt to use these to frustrate the policies of central government with regard to fundamental questions of national security would create a constitutional crisis.

NUCLEAR MODERNIZATION PLANS

The three components of the remaining British nuclear system—warheads, missiles, and submarines—each have its own timetable. We consider each in turn.

Warheads

The Atomic Weapons Establishment (AWE) at Aldermaston is required to build, maintain, and certify the existing weapons stockpile, as well as to ensure good stewardship of nuclear weapons knowledge. It is managed by a consortium, in which one-third of the shares are held by the US firm Lockheed Martin. The UK's current nuclear warhead is based on the American W76 design. In July 2005, the government announced an “extensive research programme to assure the safety and effectiveness of the warhead stockpile,” and an investment program at Aldermaston, amounting to some £350 million over three years. This would allow the current warhead to be maintained in service into the 2020s, with any necessary upgrading and refurbishment, but also ensure that the core skills and facilities were available to develop a successor warhead.²⁶ The skilled workforce was by this time down to about one-third of its peak Cold War levels. The government was anticipating substantial further investment, with the cost of AWE rising by over 20 percent, up from an equivalent of 2.5 to 3 percent of the defense budget. A decision on whether to go for a new warhead would be taken in the early 2010s following “a detailed review of the optimum life of the existing warhead stockpile and analysis of the range of replacement options that might be available.”²⁷ It may be that the UK will follow the American Reliable Replacement Warhead program (RRW), geared to producing warheads that are relatively simple in design and cost-effective, not dependent on testing to ensure their reliability, and able to deliver as small or large a blast as required.²⁸

Missiles

By the time of the 1998 SDR, 58 Trident D5 missiles had been purchased. There was an option to purchase an additional seven missiles but this was exercised. Occasional test firings reduced the inventory to 50, but the government concluded that no further procurement of D5 missiles would be necessary. It was decided, however, to participate in the US life extension program for the D5 missile, at a cost of some £250 million. This will add another twenty years to their operational life and enable them to stay in-service until the early 2040s. The modernization of existing missiles would focus on the components most at risk of obsolescence, especially the electronics in the flight control systems, but not payload, range, or accuracy.²⁹ Any decision on a successor missile would therefore not be needed until the 2020s, and assurances had been sought and received that in the event the US decided to develop a successor to the D5 missile, the UK would have the option of participating in the program and that this missile would be compatible with the launch system in the UK's SSBNs.^{‡‡}

Submarines

The SSBNs are based at Faslane in Scotland, which is also a home for Britain's conventionally-armed submarines. The nuclear warheads carried onboard the SSBNs are stored and fitted to the UK's Trident missiles at the Royal Naval Armaments Depot at Coulport, near Faslane. Submarines are built at Barrow-in-Furness, Cumbria, by BAe Systems. The operational and refit and support site is at Devonport, Plymouth. This is run by DML (a consortium of which fifty-one per cent is owned by the US firm Halliburton). As can be seen, the UK lacks redundant capabilities. If any of these facilities with its specialized infrastructure and highly-skilled workforce was lost, it would be extremely difficult and expensive to recreate over the long-term.

^{‡‡} See exchange of letters between Prime Minister Tony Blair and President George W Bush, 7 December 2006, Cm 6994. The reply from the US President stated that the United States “continues to attach great importance to the maintenance of an operationally independent nuclear deterrent capability by the United Kingdom.” It also said that the United States “fully supports and welcomes the intention of the United Kingdom to participate in the life-extension program for the Trident II D5 missile. We will work to ensure that the necessary components of the overall system are made available to the United Kingdom to support life-extended D5 missiles...For the longer term...I would invite the United Kingdom to participate, at an early state, in any program to replace the D5 missiles or to discuss a further life extension—for your purposes—of the D5 missile to match the potential out-of-service date of your new submarines. In this respect, any successor to the D5 system should be compatible with, or be capable of being made compatible with, the launch system for the D5 missile, which you will be installing into your new submarines. The United States will also ensure...that the United Kingdom has the option to sustain an effective nuclear delivery system for at least the life of your successor submarine force as was done with the Polaris system.”

The key factor influencing replacement decisions in 2007 was the SSBNs. The logic was as follows: The first of class entered service in 1994; their life expectancy would be 20 years, though this could be extended by about five years; they will therefore start leaving service at the latest in the early 2020s. Once the second boat has left service, continuous patrols cannot be guaranteed; it will take around 17 years to develop and build a replacement. The major issue with the submarines appears to be the steam generators and other elements of the nuclear propulsion system. The timetable would call for two years for the concept stage, seven years for design, and another seven to build, with the final period devoted to sea trials and other tests, training the crew, putting the missiles in, test-firing the missile, and then getting the submarine on operational patrol.

The MoD's timetable has been challenged by American Professor Richard Garwin, who argued that the decision to replace the Vanguard-class submarines was "highly premature."³⁰ He argued that the Vanguards could last as long as the US boats, which were worked much harder, and that steam generator life could be extended by "improved management of their water chemistry."³¹ Garwin also argued that SSBNs could be built at a rate of one every four years, rather than one every two years, and still maintain an adequate skills base. MoD disagreed with this assessment and warned that it would be a high-risk strategy. Unlike the Americans, who built the potential for a substantial life extension into the design of their Ohio-class SSBNs and now plan to run them for as long as 40 years, the British do not have this option. With the British boats, MoD said, changes to the propulsion unit would require penetrating into the hulls which would require taking individual boats out of service for extended periods of time and with only limited gain. With 14 SSBNs, the US also has more flexibility and British officials deny that the US boats are run harder. Further, if problems developed in the refits there would be no redundancy. British officials still recall a whole class of long-range bombers—the Valiants—suddenly having to be removed from service because of metal fatigue. The experience with the Resolution-class, moreover, was that it was a struggle to maintain a continuous patrol in the later stages of their lives. On the other hand, relaxing the criterion of continual patrols could clearly make it possible to put off the decision.

One potential advantage of the decision is that the new SSBNs could be designed to maintain a continual patrol with only three boats. In the past, four boats have been necessary to keep one on patrol because one is normally preparing to enter refit, in refit, or leaving refit and preparing to re-enter service, while another is in maintenance between patrols, and another is either on its way to take up patrol or returning from patrol. One reason for the timing may be concern about the UK's submarine industrial base, which might decline if there were a long gap before new

submarine development and construction were to begin. The current program for Astute-class nuclear attack submarines (SSNs), for example, has experienced some difficulties because of the loss of key design skills.³²

The House of Commons Defence Committee set out the following decision timetable:

- **2006-2007** Decision on investment to sustain the industrial and basing infrastructure and specialist skills base pending a decision on the future of the nuclear deterrent;
- **2007-2010** Decision on whether or not to begin a Service Life Extension Program for the current Trident system, which would affect the rest of the timetable;
- **2010-2014** Decision on whether to retain a strategic nuclear deterrent and extend the life of the Trident submarines, and evaluation of options for potential successor platforms;
- **2014** Decision on the exact form of the future platform and whether to make the investment commitment, thereby making the decision to retain the force harder to reverse.

A successor platform must be ready by 2020 without an extension program for existing SSBNs. With an extension program, the successor platform would need to be ready by 2025 if continuous patrols are to be maintained. In short, over the next six years or so Britain must confirm that it wishes to retain a nuclear deterrent.

BRITISH RATIONALES FOR MAINTAINING NUCLEAR WEAPONS

Although it might have been expected that there would be major shifts in rationale, along with changes in the wider strategic environment, there has been considerable continuity in Britain's rationale for maintaining nuclear forces. This has meant that rationales have been sustained at a rather general level of security against unknown dangers, while the specific issues of how to deter the Soviet Union were seen to have been rendered irrelevant by the end of the Cold War.

During the Cold War

By way of contrast with France, Britain has never associated an independent nuclear deterrent with any deep sense of national destiny. Little patriotic symbolism was generated around the nuclear force and no extravagant claims were made as to its military value. For example, in 1980, Defence Secretary Francis Pym dismissed justifications for the British nuclear capability such as "political prestige, our status in the Alliance, or a comparison with France ... the concept of a 'Fortress Britain'-some kind of insurance policy concept, should the United States go isolationist or

the Alliance collapse.”³³ Far more decisive was the view that, “Britain needs to be a nuclear power primarily because of what this contributes to NATO’s strategy of deterrence and, through that, to our own security.” His successor, John Nott, also remarked that he had “little time for arguments based on prestige, seats at top table and the like.”³⁴

The challenge for Britain was to develop a strategic rationale without repudiating the US nuclear guarantee to Europe, along with NATO itself. This was particularly difficult in the early 1960s, when the United States was raising objections to small nuclear forces, famously described by Secretary of Defense Robert McNamara as “dangerous, expensive, prone to obsolescence and lacking in credibility as a deterrent.”³⁴ Some of the American complaints were met by moving Britain’s nuclear deterrent from air-launched bombs and missiles to more survivable submarine-launched missiles, which were less likely to prompt the premature outbreak of nuclear war. The problem of explaining how NATO could benefit from a separate British nuclear force was solved by adopting the concept of multiple decision centers, usually associated with the French strategist, Andre Beaufre.³⁵

This formula was adopted in the mid-1960s and was maintained thereafter without amendment, through governments of both parties, and also through the end of the Cold War. While the United States went through regular twists and turns in its nuclear doctrine, Britain’s view was remarkably consistent. Neither changes in the strategic environment nor did doctrinal shifts by allies influence this formula. The reason was less one of intellectual conviction than diplomatic convenience. The official version stressed the British government’s complete confidence in the US guarantee but recognised that, mistakenly, the adversary might be less impressed. A second center of nuclear decision, particularly one close to the likely conflict, would add extra uncertainty to the adversary’s calculations. To a determined enemy, the risk of calling the American bluff might just about be tolerable, but not necessarily that of calling the British and French bluffs as well.³⁶

In the 1980s, unexpected difficulties were caused when President Reagan entered his “anti-nuclear phase.” This began with the Strategic Defense Initiative (SDI) of 1983, and reached its peak with the Reykjavik Summit with Soviet President Mikhail Gorbachev in October 1986. Reagan’s tendency towards an absolutist critique of nuclear deterrence during this period caused a series of problems for

³³ *Official Record*, 3 March 1981, col. 139. The ‘top table’ is a reference to Prime Minister Sir Alec Douglas-Home’s promotion of an independent nuclear force as a “ticket of admission to the top table” during the 1964 General Election. Nott did, however, add “that I would feel more than a touch of discomfort if France, with her clear policy of non-commitment to Alliance strategy, were the only West European nuclear power.”

Prime Minister Margaret Thatcher. With SDI, Reagan was arguing that the world would be safer if both sides were able to defend themselves against ballistic missile attack. There was thus a natural question to ask as to whether Britain could expect to be protected by the US defensive shield, given its proximity to the Soviet Union, while its own missiles might not be able to penetrate the Soviet defensive shield, and so fail to function as a deterrent. The government's analysts convinced themselves that the Trident system would be able to cope with any shield that the Soviet Union would be able to put up during its life-time, but if a "strategic-defense race" had developed, then the government would have been hard put to convince Parliament and the electorate that it was worth bothering with Trident, without casting doubt on Reagan's whole enterprise.

With US-Soviet strategic arms control negotiations ongoing, there also was a risk that the United States would agree to measures that would limit its ability to provide Trident missiles to the UK. In the early 1980s, this seemed unlikely as submarine-based systems were preferred by the US and thus there was virtually no risk of that the program would be cancelled. However, as President Reagan zeroed in on ballistic missiles as the targets for the SDI, his proposals for strategic arms control began to focus on missiles, as well. In fact, in the summer of 1986, he proposed a ban on all ballistic missiles. The disastrous consequences of such a prohibition for the British program resulted in an anxious letter from Prime Minister Thatcher to President Reagan. British officials believed the letter led to rejection of the heresy and so were horrified to see a missile ban return so publicly to the US position during the Reykjavik summit later in the year. In both December 1984, as a result of SDI, and in December 1986, after Reykjavik, Prime Minister Thatcher scuttled across the Atlantic to encourage the President to correct the anti-nuclear impression he had created. She had argued that nuclear deterrence based on the threat of devastating retaliation was moral, durable, and essential for security. It was alarming to hear her close ally, President Reagan, suggest that it was none of those things.

Despite the fact that Britain's nuclear policies were closely linked to those of its allies and the disavowal of nationalistic and prestige rationales, much of the debate on the need for a British nuclear force has been bound up with the claim of "independence," which has been a theme in writings about Britain's nuclear forces from the 1950s through the present time.³⁷ Analysts have explored repeatedly whether Britain really could sustain, let alone operate, its nuclear forces without American assistance.³⁸ Critics of British nuclear forces considered that they were making a telling point against it by pointing to the impossibility of imagining circumstances in which a British prime minister would use nuclear weapons even though an American president had declined to do so. This point was often made by

Lord Carver, former Chief of the Defence Staff, for example, who was cited by the Labour Party in its 1986 statement on defense policy as authority for the observation that, “It is inconceivable that a British politician would use these missiles, knowing with complete certainty that doing so would be followed by obliteration of our country.”³⁹

Carver was not arguing against nuclear deterrence—only questioning whether Britain needed to make a contribution. The circumstances in which national nuclear use might be contemplated by Britain are almost always bound up with a European crisis in which the key question is the role of the United States. Britain had never attempted to argue that its own forces could substitute for those of the United States: At most, the existence of British national forces could add uncertainty to Soviet (and American) decision-making.

By hosting American nuclear forces on its territory, Britain’s commitment to sustaining the American nuclear guarantee was underlined. There has always been some domestic political opposition to the bases and governmental nervousness at times over the use that the Americans might make of them. Contentious in the 1950s, they were not a prominent political issue from the early 1960s to the 1980s. To the extent that they were, it was the US Polaris (and later Poseidon) base at Holy Loch that attracted the greatest criticism, rather than the air bases.^{***} As late as 1976, the Labour Government had agreed that about 90 F-111 aircraft could be added to the 70 that had been based in Britain since 1971 (the result of an earlier negotiation undertaken by a Labour government). These F-111s had ranges sufficient to reach the Soviet Union and could each carry two weapons of up to 800 kilotons. When the aircraft arrived in 1977, there was neither public debate nor protest. During the late 1970s, Labour ministers were far more nervous about being seen to contemplate the replacement of Polaris than tolerating the possible entry of American cruise missiles.

During the 1980s, however, opposition to American bases struck a responsive political chord. The arrival of 96 Tomahawk ground-launched cruise missiles at Greenham Common and another 64 at Molesworth was the result of NATO’s December 1979 “double-track decision,” combining new nuclear deployments with an arms control initiative. This decision had taken on a more controversial aspect than anticipated because of widespread concern over the apparent trend in American strategic thinking, beginning in 1981, which seemed to take concepts of nuclear

^{***} In the 1950s anti-Americanism in the Labour Party was used to support the case for a national force. See Leon Epstein, “Britain and the H-Bomb, 1955-1958,” *Review of Politics*, XXI (1959), pages 522-533.

war-fighting seriously because of the deterioration in East-West relations following the Soviet invasion of Afghanistan. The issue of US bases raised questions of sovereignty, as well as of nuclear weapons. There was now anxiety that not only might American bases draw fire, but also that they would be used to initiate a major war, and that little notice would be taken of British views if the government sought to protest. In 1983, there was a heated debate over the nature of the “joint decision” that would have to be taken if US nuclear forces were to be launched from Britain. This debate was prompted by the imminent arrival of cruise missiles, which were to be operated solely by the US, and by the apparent lack of consultation over the US intervention in Grenada earlier that year. The debate produced one of the most massive opinion poll majorities ever recorded against government policy. Ninety-four percent of the British people declared themselves in favor of dual keys for all US nuclear weapons based in the UK.⁴⁰

In the 1980s, therefore, there were more doubts in the electorate over the advisability of American nuclear bases than there were over the desirability of Britain remaining a nuclear power, for which there was a consistent and substantial majority.⁴¹ This created difficulty for the Labour leadership, which did not wish to appear anti-NATO. The most respectable argument against a British nuclear capability was that the existence of an American capability rendered it largely irrelevant. If, however, the American nuclear capability was also to be rejected, then the Labour Party risked the appearance of offering no form of deterrence to Soviet nuclear capabilities. Nonetheless, this was the path pursued by the Labour Party leading up to the 1987 election. It did not reject one aspect of nuclear deterrence: It rejected nuclear deterrence in toto. Instead of making choices within the framework of a minimalist approach to nuclear deterrence, it decided to abandon deterrence altogether—both British forces and the American guarantee, the threat of second use and the threat of first use.

By 1987, moreover, there was no longer the sense of an imminent international crisis to add urgency to the defense debate, as there had been earlier in the decade. The resumption and progress in arms control negotiations suggested that current policies were working perfectly well, obviating the need for radical corrective actions. Prime Minister Thatcher endorsed the “double zero” in the negotiations on Intermediate-range Nuclear Forces (INF), as proposed by the Soviet Union and received sympathetically by the United States, despite her own and West German misgivings, ensuring that she was not vulnerable to the charge of dragging her feet on arms control. The nuclear issue lost the sense of imminent danger and therefore its political salience.

The collapse of European communism and the evaporation of the Soviet threat and hegemony in 1989 raised a new question mark against the established rationale. In the discussion document accompanying the July 1980 decision on Trident, the only hint that history might move on was a vague reference to a future Soviet leadership “much changed in character from today, perhaps operating amid the pressures of turbulent internal or external circumstances.”⁴²

Targeting doctrine was geared to the Soviet threat, particularly in view of the introduction of a missile defense system around Moscow. The introduction of Chevaline, which began operational service in the summer of 1982, did not mandate an attack on the Moscow area as the only targeting option. It appears, however, to have committed Britain to an attack on a few, and possibly no more than one, large target(s). In 1980, it was acknowledged officially that, “There is a concept which Chevaline makes clear, that Governments did not want to have a situation where the adversary could have a sanctuary for his capital and a large area around it.”⁴³ With Polaris’ old A-3 warhead, all missiles on a submarine would have to be committed and yet the authorities would be without complete confidence of success. With Chevaline, a similar number of missiles would be launched, but with a much greater chance of success. The concept was to rain a series of warheads and decoys simultaneously over the target, gaining its effect not from the contents of a single missile, but from the combined contents of a number of missiles—probably the full complement of one SSBN. With the Soviet Union gone and Russia not considered an enemy, Britain’s targeting concept and strategic rationales had lost its footing.

After the Cold War

When the Cold War ended, it became necessary to disentangle the SSBN system to enable it to take on a number of targets at once. Until Trident became operational, Britain had little flexibility in targeting. With Trident, however, each submarine could carry as many as 16 missiles, each with eight warheads. If three boats were on station there could be maximum coverage of 384 targets. As already noted, successive governments committed themselves to reduced numbers of warheads, until a base level of around 160 was reached. The numbers carried at sea could be varied according to the perceived strategic situation. In an individual boat, some missiles could carry loads geared to a strategic exchange, while others would carry smaller packages.

With the end of the Cold War, it became even more difficult to stress prestige arguments for retaining a nuclear arsenal as Ukraine, Belarus, and Kazakhstan were being told that they had little to gain by retaining the pieces of the old Soviet nuclear arsenal still residing in their territory. Moreover, a major plank of policy towards the third world was to prevent the further spread of weapons of mass destruction. In

another sense, the case for a national nuclear force was strengthened, as the key strategic issues shifted away from old questions about the durability of the US nuclear guarantee.⁴⁴ With Europeans no longer preoccupied with the credibility of the US umbrella against the Soviet threat, many of the provisions established to reassure Europeans about extended deterrence were withdrawn. In December 1990, for example, NATO's Nuclear Planning Group spoke of reduced reliance on nuclear systems as influencing both "Alliance nuclear force levels and structures," and promised "further dramatic reductions in the number of NATO's nuclear weapons retained in Europe."⁴⁵

Reflecting on this situation, Secretary of Defence Malcolm Rifkind warned against "any tendency towards thinking that there could be a major conflict in Europe in which the question of nuclear use arose which did not involve the vital interests of all the allies, including the US."⁴⁶ However, circumstances could be envisaged in which the US nuclear guarantee might be called into question by the limited stake the Americans might perceive in the particular issues that had created the crisis. On this basis, the old second center of decision-making argument from the Cold War era still had some "validity."

The critical focus also stuck with the former Soviet Union. Even taking into account planned reductions, Moscow would still have a capacity to inflict unacceptable damage on Western nations and its integration into the Western economic and political system was likely to be tenuous at best. Russia would still have a substantial nuclear arsenal well into the next century. Thus, Rifkind argued, "Our strategy makes military recidivism by any future Russian leadership a pointless option for them."⁴⁷

Nor was there much support for the view that an alternative guarantee could be based on France and Britain. This was always assumed to lack the credibility of an American guarantee, both because of French policy and the balance of forces. With the Alliance rationales looking dated, the official rationale reverted to basics:

Our defence strategy will continue to be underpinned by nuclear forces as the ultimate guarantee of our country's security. Nuclear weapons guard against any attempt by an adversary to gain advantage by threat or coercion. They are also uniquely able to ensure that aggression is not a realistic option, by presenting to a potential aggressor the prospect of a cost that would far outweigh any hoped-for-gain.⁴⁸

Rifkind reported that nuclear use would only be credible, justifiable and proportionate when, “vital national interests were at stake,” and that the most vital of interests were narrowly national—“the most obvious hypothesis being a direct homeland threat from an aggressor equipped with weapons of mass destruction.”⁴⁹

Increasingly, the risks of third-world proliferation were used to reinforce the case for the British deterrent. This rarely went much further than the rhetorical, “what if [whoever happened to be the most menacing dictator at the time—Galtieri, Gaddafi, Saddam, etc] had nuclear weapons and we did not?”^{†††} A nuclear capability might neutralise nuclear threats posed by a rogue state, though this implied a readiness to make nuclear commitments to other countries—a policy that would go well beyond anything contemplated since the 1960s, when there had been some suggestions that UK nuclear capabilities might be relevant to Indian attempts to deter China. Such possibilities might be the context for the supposed sub-strategic use of Trident, in some sort of warning-shot function. With Trident, however, the “sub-strategic” nature of the shot would have to be made clear by the choice of target. At the same time, because of both past practice and international declarations, it could be no part of policy to use nuclear weapons to intimidate non-nuclear powers armed with only conventional forces.^{‡‡‡}

There was a degree of ambiguity regarding the relevance of nuclear forces with regard to deterring the use of other terror (i.e. chemical and biological) weapons. At no stage, however, were explicit nuclear threats issued by the US during the 1991 Persian Gulf War. The coalition’s capacity for severe retaliation with conventional air power (as well as defensive measures against chemical use), plus a deterrent threat based on the extension of political objectives to threaten the Iraqi regime itself, appeared sufficient. When John Major was questioned on the possibility of nuclear use in retaliation for Iraqi chemical use while visiting troops just before the start of the war, he replied, “We have plenty of weapons short of that. We have no plans of the sort you envisage.”⁵⁰

^{†††} Eg. *Rifkind Speech*: “The thought of what might have happened had Saddam Hussein been able to build a nuclear weapon before the invasion of Kuwait is a sobering one indeed.”

^{‡‡‡} In 1978, the Head of the UK Delegation to the UN Special session on Disarmament made the following statement:

I accordingly give the following assurances on behalf of my Government to non-nuclear weapon States which are parties to the Non-Proliferation Treaty or other internationally binding commitments not to manufacture or acquire nuclear explosive devices: Britain undertakes not to use nuclear weapons against such states except in the case of an attack on the United Kingdom, its dependent territories, its armed forces or its allies by such a state in association or in alliance with a nuclear weapons State.

Annex Q, *The United Nations Special Session on Disarmament*, Cmnd 7267 (London: HMSO, 1978).

Rifkind, in fact, queried rogue state rationales. If deterrence relied on rationality and caution in an aggressor, would it work with a “tyrant with little regard for the safety and welfare of his own country and people? If he is a gambler or an adventurer? If his judgement is unbalanced or clouded by isolation?”⁵¹ He also expressed concern that public opinion would always think nuclear use disproportionate against a “small country, or an economically weak one.” Nor would more “usable” low-yield nuclear weapons be effective as a deterrent — “There is a horror associated with nuclear weapons which we should not attempt to mitigate.” The preference was to place hope in the non-proliferation regime, plus the threatened use of conventional weapons with precision strike technologies and also precision intelligence. In addition, “Pre-emptive conventional strikes against clearly-identifiable targets under appropriate international sanction are a conceivable option, given the capability of modern conventional weapons, and given the availability of good intelligence.”⁵²

The 2007 Decision

Nuclear capabilities do not have to be threat-specific in their design, but could be targeted against any potential enemy should the need arise. Such capabilities could evidently be of scant value in terms of current threats, but perhaps could become truly relevant in the event of the emergence of more extreme threats to national security. If the UK’s nuclear capabilities serve any current strategic purpose, it is in reinforcing the presumption, established during the Cold War, that great power warfare would be catastrophic. In the December 2006 White Paper, the government used the minimalist argument. It could not be argued that “a major nuclear threat to our strategic interests will not emerge.” By the time of the 2007 decision on whether to begin the Trident replacement program, the rationale had become essentially a generalised worry about the future.

Prime Minister Blair’s introduction to the December 2006 White Paper stated that,

The future is uncertain: accurately predicting events over the period 2020 to 2050 is extremely hard. There are worrying trends: nuclear proliferation continues; large nuclear arsenals remain, and some are being enlarged and modernised; and there is a potential risk from state-sponsored terrorists armed with nuclear weapons.⁵³

A “minimum nuclear deterrent” was presented as insurance against such risks. Other than the fact that a decision was needed to prepare for a new generation of SSBNs, this was not an obvious time to abandon the capability, he continued. “None of the present recognised nuclear weapons States intends to renounce nuclear weapons, in the absence of an agreement to disarm multilaterally, and we cannot be

sure that a major nuclear threat to our vital interests will not emerge over the longer term.” It was up to those arguing for what would be unilateral disarmament to explain how this “gesture” would change “the minds of hardliners and extremists” in proliferating countries and how the UK’s “capacity to act would not be constrained by nuclear blackmail by others.” The “enduring principles underpinning the UK’s approach to nuclear deterrence” that are cited in the White Paper could have been offered at any time over the previous forty years. The focus would be on preventing nuclear attack, rather than military use during conflict, although the reference to what was being deterred was not just, “nuclear blackmail,” but also, “acts of aggression against our vital interests that cannot be countered by other means.” There would be no specificity about “precisely when, how and at what scale we would contemplate use of our nuclear deterrent,” as that would “simplify the calculations of a potential aggressor.” The national deterrent was also held to support “collective security through NATO for the Euro-Atlantic area,” which might be considered significant by the absence of mention of the Middle East. Lastly, the independent center of decision-making rationale was repeated:

Potential adversaries could gamble that the US or France might not put themselves at risk of a nuclear attack in order to deter an attack on the UK or our allies. Our retention of an independent centre of nuclear decision-making makes clear to any adversary that the costs of an attack on UK vital interests will outweigh any benefits. Separately controlled but mutually supporting nuclear forces therefore create an enhanced overall deterrent effect.⁵⁴

The Secretary of Defence answered the question of why a nuclear deterrent was needed with “because it works.” The evidence was cited in the negative: The absence of nuclear use or great-power conflict since the advent of the nuclear age. He stressed concerns about proliferation in unstable regions rather than just uncertainty. The UK’s nuclear capabilities would only be used to deter extreme threats and not to provoke or coerce. He added that it had been decided to stop using the term “sub-strategic Trident” as this implied the possibility of limited use during a conflict.⁵⁵

Critics of the decision have argued that maintaining Britain’s nuclear capabilities is unnecessary and complicates non-proliferation efforts. Whereas in the past the arguments might have been related more to arms races and aggravation of the Cold War, contemporary critiques point to the irrelevance of nuclear weapons in most of the conflicts in which the UK has been engaged, the potential illegality of nuclear capabilities, and the bad example being set at a time when the government claims to wish to reinforce the non-proliferation treaty and promote multilateral

disarmament.⁵⁶ A major feature of the attack is that the British force is not truly independent. This is directly contradicted by the government which insists that the system's operations are fully independent of the US, including all the command and control procedures, that all decision-making remains under sovereign control, and that only the prime minister could authorize nuclear use, even in a NATO context. Any "instruction to fire would be transmitted to the submarine using only UK codes and UK equipment." Moreover, the government maintains, the SSBNs do not require the US Global Positioning by Satellite (GPS) system to function, while the missile—with its own inertial guidance system— does not use GPS at all. Finally, the government states, that while a decision by the US to withdraw all cooperation, which would be a breach of treaty commitments, would over time degrade the ability of the UK to maintain the SSBNs and the missiles, an abrupt break with the UK during a crisis would not have much impact (unless an adversary perceived it to have made an impact).⁵⁷

THE BRITISH APPROACH TO NUCLEAR ARMS CONTROL AND DISARMAMENT

One of the justifications for Britain's continued retention of a nuclear capability is that it has given the country a guaranteed presence and influential position when nuclear issues are discussed, including disarmament. In this section, we consider the evolving UK policy on disarmament.

During the Cold War

From the 1950s, British governments have always declared themselves in favor of eventual general and complete disarmament and supportive of more modest arms control efforts. Britain was involved in the direct negotiations of the 1963 Limited Test-ban Treaty and the 1968 Non-Proliferation Treaty. Though in the 1980s, arms control might have been an obvious candidate for some Thatcherite revisionism, challenging its interventionist, regulatory ethos, and pointing to the contrived conclusions reached by the negotiations, no such critique was ever launched. However, there has always been a clear determination to protect the British nuclear force from arms control. During the Cold War, the country's basic attitude towards strategic arms control combined enthusiasm in principle with wariness in practice. This was explained as follows:

The US and the Soviet Union between them have about 95% of the world's nuclear weapons. The clear priority is to get these huge stockpiles reduced. Even when the UK's nuclear deterrent is modernised with Trident, it will remain less than 3% of the Russians' nuclear potential - at the minimum level for effective deterrence. But the British Government has never said 'never' to

including UK nuclear weapons in the negotiations. If Soviet and American strategic arsenals are very substantially reduced, and if no new significant changes have occurred in Soviet defences against them, we will be ready to consider how the UK can best contribute to arms control talks in that new situation.⁵⁸

After the Cold War

With the Cold War ended, and the United States and Russia promising major cuts in nuclear forces, the British government became somewhat more candid about the slight room for manoeuvre allowed by a nuclear force already at a minimum level:

We have always made it clear that the United Kingdom would deploy only the minimum deterrent required for our security needs. These are not determined by the scale of the offensive capabilities of the super-powers. We did not seek to match them in the large build-up in their strategic forces in the 1970s and 1980s, and the reductions they have now agreed - though very welcome in themselves - are not a determinant in sizing our own deterrent. The superpowers have now charted a course which, if all goes well, will lead after another seven to eleven years to substantially smaller strategic stockpiles, reflecting a much improved strategic environment. We very much hope that this improvement will continue; but the course of international events cannot be predicted with certainty. At the same time there is increasing interest in the improvement of ballistic missile defences, and their deployment on a limited basis.⁵⁹

Such statements suggest that the transformation of the European security scene as a result of the end of the Cold War was of slight relevance. As Britain already had a minimum deterrent, there was no scope for further reductions if it was to have any deterrent at all. Those cuts undertaken by the United States and Russia still left them with a substantial deterrent capability. If Russia, in particular, intended to go down to a minimum force, it would still have some capability and so unilateral deterrence by Britain, or even a contribution to a NATO deterrent, also still required some capability above the practical minimum. There was even a suggestion that the required level could grow rather than decline, should Russia develop effective ballistic missile defenses.

In January 1992, Boris Yeltsin visited London as the head of the newly independent Russian Federation. Both the Labour and Liberal Democrat parties were calling for a commitment to limit the number of British warheads on the Trident missiles to the

levels currently held on Polaris. Labour also indicated that it would be prepared to negotiate a further reduction in the number of warheads, though it was taking care not to commit itself to negotiating away the whole nuclear deterrent.⁶⁰ Yeltsin had called for Britain, along with France and China, to put their forces into international disarmament talks. Prime Minister John Major insisted that this path would not be followed.

Yeltsin also made a promise to Britain along similar lines made to the United States—its cities would be spared in Russian nuclear targeting: “In the past, the United States, Britain and Europe in general were regarded as our potential enemy. That doctrine has to be changed, and the missiles retargeted.” A degree of skepticism was expressed with regard to the retargeting of Russian missiles—they could quickly be retargeted back again. One British official was reported to have remarked: “Targeting can be punched in and out at will. Weapons can easily be retargeted. Most of them simply point up into the sky.” Major was successful in persuading Yeltsin not to push the question of British participation in a disarmament regime. When pressed by reporters, the Russian leader played down the issue: “The number of nuclear weapons at Britain's disposal is not comparable with ours, and therefore the matter is not really worth discussion.”⁶¹

A few days later, speaking in Washington, General Colin Powell, chairman of the Joint Chiefs of Staff, observed that the strategic arms negotiations had always been bilateral and should remain so. He was “not inclined” to pull the allies in, he said, “and I don't suspect they wished to be pulled in.” He added that the Russians should not “feel any particular concern over these non-US systems but they do, and that's a matter for them to take up with the other Western nuclear powers.”⁶² This statement effectively removed the issue from the British domestic political agenda.

Meanwhile, the government sought to reinforce its arms control credentials by drawing attention to initiatives outside the strategic arms area, such as chemical weapons and arms transfers. In claiming credit for the cuts in sub-strategic nuclear forces, the benefit was described in terms of the objective of confidence building, rather than “stability” or “balance.” As Defence Minister Rifkind put it,

All these measures to reduce nuclear force levels not only have obvious attraction for tax-payers and for finance ministers: they also reduce, as a matter of simple mathematics, the risk of an error or an accident; and they contribute to the building of greater confidence, facilitating the development of co-operative relations.⁶³

Confidence-building measures that did not impinge directly on force structure raised few problems for British planners. Thus, London had its own “hot-line” with Moscow, and there was approval for American efforts to add to the locks and safety catches safeguarding nuclear arsenals by strengthening command and control procedures, the end of quick-reaction alerts, dismantling of warheads, and the separation of nuclear weapons from general purpose forces. This established as a central theme a policy of reducing nuclear risk as a supplement, and for countries such as Britain, an alternative, to simple disarmament.

Where possible Britain has always sought to comply with arms control agreements. An example of this is nuclear testing. As would be expected from the minimalist approach, Britain’s underground nuclear test program was very much smaller than those of other nuclear powers, with a few tests geared either to safety or to checking new weapon designs. After the Limited Test-ban Treaty of 1963, which precluded atmospheric tests and which Britain had helped negotiate, Britain conducted only 21 tests. Britain also supported the negotiations for a comprehensive test ban (although some of its scientists agreed with their American counterparts that the reliability of warheads could not be guaranteed without tests), but kept open the option of further underground tests until such a treaty was in place. This option depended on the US allowing continued use of its Nevada test site, as Britain lacked its own facility. In September 1992, Congress, against the wishes of President George H.W. Bush, enforced a nine-month moratorium on US nuclear testing, which was intended (at least by Congress) to lead to a complete ban by 1996. Britain would be allowed one test per year up to 1996, and the Pentagon was reported to have made provision for this number (that is three out of 15 in total). The British Embassy lobbied against the moratorium on the grounds that, “we still need to carry our minimum test program for reasons of safety, reliability and effectiveness.” The Ministry of Defence’s response to the prospect of a complete ban after September 1996 was that it would, “use the intervening time to ensure our deterrent is on good order for the 21st century.”⁶⁴

The Clinton Administration came to power in 1993 under considerable pressure to accept a complete ban on nuclear testing. Officially, the position remained that tests were necessary to “maintain the safety and credibility of our deterrent.”^{§§§} And, indeed, as with a number of issues, President Clinton did not find the test ban issue as straightforward as had candidate Clinton. The Department of Energy, responsible for testing, argued that nine tests would be needed up to 1996, largely

^{§§§}. *The Observer* (14 March 1993). The shadow cabinet agreed on 3 March 1993, ‘that no further testing is needed for Britain’s Trident programme and that any further work can be adequately conducted under laboratory conditions.’ *The Times* (4 March 1993).

for safety purposes, though the Pentagon had maintained that these would be unnecessary. Britain's last nuclear test took place in 1991. The Trident warhead was fully tested and any future tests would have been geared to the WE-177 replacement, but Britain had never put much stress on future proof-testing. MoD officials, in explaining why they wanted to continue testing, have largely concentrated on the value in new warhead design as providing "an opportunity to touch reality, to relate the predictions of your theoretical calculations to empirical results."⁶⁵

Unlike the United States, Britain has ratified the Comprehensive Test Ban Treaty, which was completed in 1998, but has not yet entered into force because only 33 of 44 named states that are required to ratify the Treaty have done so. Since 1995, Britain has also followed a moratorium on the production of fissile material for nuclear weapon purposes and placed excess defense material under international safeguards. The US, France, and Russia have made similar arrangements, although these steps have yet to be consolidated into a treaty.

A more challenging question has been the nuclear Non-Proliferation Treaty (NPT). On the one hand, the Treaty recognises the UK's status as a nuclear weapon state; on the other, it carries a requirement "to pursue negotiations in good faith on effective measures relating to the cessation of the nuclear arms race at an early date, and on a treaty on general and complete disarmament under strict and effective international control."⁶⁶ This provision is short of a legal obligation. Nor does it preclude maintaining or improving nuclear arsenals so long as some effort is made to negotiate disarmament. Against the argument that abandoning, or at least not renewing the nuclear strike force, would be an exemplary act and encourage others not to aspire to nuclear status, the official line has always been that there is no evidence to justify such a claim. It is argued that nuclear policies are too important to be influenced by the example of others.⁶⁷ Against the argument of hypocrisy in opposing the efforts of such countries as India, Pakistan, North Korea, and Iran to acquire nuclear weapons, while insisting on retaining a national arsenal, successive British governments have pointed to the basis of the NPT in distinguishing between nuclear and non-nuclear states and demanding that the non-nuclear do not seek to acquire weapons.

Britain has agreed not to deploy or use or threaten to use nuclear weapons in nuclear-weapons free zones covering Africa, Latin America, and the South Pacific. The abandonment of the "sub-strategic" category of weapon and insistence on use only in extreme circumstances reflects the 1996 International Court of Justice (ICJ) Advisory Opinion on the "Legality of the Threat or Use of Nuclear Weapons." This opinion aimed to fit nuclear weapons use in with the normal laws of armed conflict, that any use should be proportional, distinguish between combatants and non-

combatants as much as possible, and not cause unnecessary suffering. The ICJ concluded that “the threat or use of nuclear weapons would generally be contrary to the rules of international law applicable in armed conflict, and in particular the principles and rules of humanitarian law.” The destructiveness would be such that any use “seems scarcely reconcilable,” with this law. The ICJ would not, however “conclude definitively whether the threat or use of nuclear weapons would be lawful or unlawful in an extreme circumstance of self-defense, in which the very survival of the state would be stake.”⁶⁸ The British government accepted this ruling.

The 2007 Decision

One of the features of the 2007 decision, coming as it did when pressure was building up to look again at the abolition of all nuclear weapons, was a strong reaffirmation of support for this goal. “We stand by our unequivocal undertaking to accomplish the total elimination of nuclear weapons.”⁶⁹ The issue was addressed in the White Paper and then again in two major speeches, one by Foreign Secretary Margaret Beckett in the summer of 2007, and then another by Defence Secretary Des Browne to the Geneva Conference on Disarmament in February 2008. Between these two statements, the new Prime Minister Gordon Brown affirmed, in a speech in New Delhi in January 2008, his government’s commitment “in the run up to the Non-Proliferation Treaty review conference in 2010 to accelerate disarmament amongst possessor states, to prevent proliferation to new states, and to ultimately achieve a world that is free from nuclear weapons.”⁷⁰

Beckett’s starting point was the article by George Shultz, William Perry, Henry Kissinger, and Sam Nunn in the *Wall Street Journal* that made the case for “a bold initiative consistent with America’s moral heritage.”⁷¹ That initiative was to re-ignite the vision of a world free of nuclear weapons and to redouble efforts on a number of practical measures towards it. Beckett agreed on the need for both “vision—a scenario for a world free of nuclear weapons,” and also “action—progressive steps to reduce warhead numbers and to limit the role of nuclear weapons in security policy.”⁷² Though these two strands were separate they should be mutually reinforcing, she maintained. “Both are necessary, both at the moment too weak.” She argued for an unappealing and unequivocal vision. Taking her cue from William Wilberforce and the slave trade, she asked, “Would he have achieved half as much, would he have inspired the same fervour in others if he had set out to ‘regulate’ or ‘reduce’ the slave trade rather than abolish it?”⁷³

The bold vision was combined, however, with very modest expectations of what might be achieved. Progress would be at best “steady and incremental.” She did not argue that the nuclear weapon states should make “immediate and unrealistic promises—committing to speedy abolition, setting a timetable to zero.” The reason

for her caution was that abolition would require much more than effective disarmament diplomacy, but also, “a much more secure and predictable global political context.”⁷⁴

As for Britain, there was no middle way between maintaining a minimum force and abolition. It would therefore be “only towards the end” of the process leading to total elimination that it will “be helpful and useful for us to include our own small fraction of the global stockpile in treaty-based reductions.” She acknowledged that the dilemma “between our genuine commitment to abolition and our considered judgement that now was not the time to take a unilateral step to disarm,”⁷⁵ was a difficult one to resolve, but she claimed this has been done by not upgrading Britain’s nuclear capability and by looking for ways to keep the numbers to the minimum.

Foreign Minister Beckett stated that the process that might lead to the abolitionist goal in the first instance were matters for the Americans and Russians, as they held between them 96 percent of the world’s remaining 20,000 nuclear warheads. There was plenty of scope for reducing numbers and this did not necessarily always require treaty negotiations. Britain had shown that it was possible to make cuts through an independent examination of actual strategic needs. The Comprehensive Test Ban Treaty and the Fissile Material Cut-Off Treaty also could play valuable roles in limiting the ability of countries to develop and expand their nuclear capabilities, she pointed out. Margaret Beckett also argued the need to reappraise “how we manage global transparency and global verification,” which she wanted to take beyond bilateral arrangements between Russia and the US. She argued that a verification regime geared to a nuclear-free world would need to be tried and tested before complete abolition, and geared to warheads more than delivery systems. She concluded with a hope that Britain could be to the fore in preparing for global nuclear disarmament as a “disarmament laboratory.” Practical work would involve looking at techniques of verification and authentication, at chain of custody issues, and at ensuring that the dismantled components of nuclear warheads do not return in new warheads.

The main addition to these positions articulated by Des Browne in his 2008 speech in Geneva was to offer to host a technical conference of nuclear laboratories from the permanent five Security Council countries (P5) on the verification of nuclear disarmament for purposes of both technical analysis and confidence building. This conference would take place before the 2010 NPT Review Conference. He also expressed interest in developing other confidence-building measures on nuclear disarmament with the P5 throughout the NPT Review Cycle.

British objectives for the 2010 NPT Review Conference are to “promote consensus around key measures encompassing the treaty’s three pillars—zero tolerance of proliferation; safe, secure and peaceful use of nuclear technology; and a reinvigorated commitment to a world free from nuclear weapons.”⁷⁶ Particular measures would include raising the cost of withdrawal from the treaty, with automatic referral to the UN Security Council, and to ensure that all material, equipment, technology, and facilities acquired under NPT membership be restricted to peaceful uses even after withdrawal from the Treaty.⁷⁷

The trend in British opinion in favor of abolition was confirmed by a newspaper article published by three former foreign secretaries and a defence secretary, following the American example of senior figures coming out in favor of abolition. They warned that the combination of widespread proliferation with extremism and geopolitical tensions meant that the benefits associated with nuclear weapons during the Cold War—greater stability among the great powers—no longer applied. They pointed to the danger of rogue states or terrorists with access to these weapons. Rather than calling for unilateral disarmament, however, they argued for “working alongside other nations towards a shared goal, using commonly agreed procedures and strategies.”⁷⁸ Their starting point, as with Foreign Minister Beckett, were the excessive arsenals of the US and Russia. They also stressed the importance of monitoring and accounting for nuclear materials and setting up domestic controls to prevent security breaches, especially in the former Soviet Union. They also proposed strengthening the NPT’s provisions on monitoring compliance, bringing the Comprehensive Test Ban Treaty into effect, and providing assistance to those trying to develop civilian nuclear capabilities in a secure manner. As for Britain’s and France’s contributions, however, they were rather vague. “If we are able to enter into a period of significant multilateral disarmament Britain, along with France and other existing nuclear powers, will need to consider what further contribution it might be able to make to help to achieve the common objective.” This did not represent a challenge to government policy. It shared the focus on limiting proliferation and containing the nuclear danger, rather than eliminating it altogether, even while asserting abolition as a long-term goal.⁷⁹

CONCLUSION

In terms of the dangers associated with a nuclear-armed world, successive British governments have never strayed too far from mainstream opinion. It is accepted that the nuclear danger has helped underline the foolishness and futility of great power war and in that respect has contributed to international stability. The end of the Cold War has removed the political triggers to a great power conflict, and while relations with Russia, and, to a lesser extent, with China, go through tense moments, there is no evident dynamic pointing to a revival of the daunting confrontations of

the past. The concern therefore has shifted to the potential for new nuclear states, especially if they seem to lack internal stability or are likely to get caught up in serious conflicts.

On proliferation, British policy has been consistent. It has not considered itself a proliferator, since it was the first country to identify a practical path to the construction of a nuclear weapon and was closely involved in the war-time Manhattan project. Once it became a nuclear power, it consistently opposed additions to the nuclear club. It also rationalized its nuclear status by insisting on the special role this gave the country in disarmament negotiations. It was active in pushing for a test ban treaty from the late 1950s and then for a non-proliferation treaty. In both cases, it played a significant part in the negotiations and was a depository power. It has consistently deplored every move by other states to acquire nuclear weapons and then taken a pragmatic view towards these states once the weapons have been acquired. Only in the case of Iraq in 2003 did a British government make the case that the risks of proliferation were sufficiently great to justify drastic action, and even then, Iraq's potential nuclear status was only one of many factors shaping the government's position. The evidence on the actual state of Iraq's nuclear program at the time was far too tentative to justify military action on its own. In the case of Libya, Britain worked closely with the US, at times taking the lead, in weaning the regime away from both support for terrorism and its nuclear program, and claimed this as a great diplomatic success when the breakthrough agreements were reached in late 2003. In the North Korean case, the British role has been marginal in a crowded field of interested parties.

In the case of Iran, Britain has been part of the "Euro-3," along with France and Germany, pressing for a diplomatic solution and relying on sanctions as the main coercive instrument. It has given no indication that it believes that a nuclear Iran would be so dangerous that military action would be warranted to prevent this from coming about. If Iran becomes a nuclear power, past practice suggests that Britain would work to remind the country of the responsibilities that come with nuclear status, and seek generally to discourage it from aggressive behaviour towards its neighbours, or sharing its nuclear technology with others. This is the approach that Britain has taken with Pakistan and where its limits have already been most severely tested. The combination of the discovery of the A. Q. Khan network and the risk-taking demonstrated by elements of the Pakistani elite sympathetic to Islamic extremism and hostile to India has at times been alarming. Nonetheless, the argument that will be made will be that there is no alternative to engagement with new nuclear powers, and that isolation is more likely to turn them into rogues. In this way, British practice has always been to seek to mitigate the effects of proliferation rather than assume that it will be for the worst. There is certainly no

sign of panic when it comes to proliferation. The approach is more “glass half full” than “glass half empty.” Every new nuclear power introduces new risks into the situation, but overall there have been far fewer new powers than once anticipated and so far those who have acquired the bomb have not appeared reckless when contemplating its use. It is evident that if they become confirmed nuclear powers, North Korea and Iran could stimulate further proliferation in their regions, but this is seen as a problem for the long-term. As a political matter, proliferation is seen as reflecting tense regional environments and therefore the question of British nuclear status is *sui generis*. The greatest anxiety is about terrorist groups getting hold of weapons of mass destruction. This is not unrelated to general problems of proliferation—insofar as established nuclear powers are likely to be the source of fissile material or even complete weapons—but the methods used to deal with a potential terrorist bomb are different, with a premium on intelligence and police work.

Because of the often-expressed belief that whether or not Britain remains a nuclear power is of minor relevance to the decisions of other states on their own nuclear status, it can be assumed that the risk of further proliferation would only reinforce Britain’s determination to remain a nuclear power. Britain’s case for nuclear retention is that it is a mature democracy of honourable intent with the need for an insurance policy. Nuclear weapons remain a hedge against an uncertain future. They can play the role that they have always played—of reminding of the folly of total war—but in circumstances less demanding than before. The government has argued that there is nothing inconsistent with holding onto its own nuclear force and to a commitment to eventual abolition. Over the years, the attempt to demonstrate that Britain’s nuclear needs were modest left the country with a force that could be abolished far easier than those of other nuclear powers, although this would be easier still if abolition came at one of those moments of anticipated block obsolescence when a decision has to be taken on whether to move to a new generation of nuclear weapons. Over time, Britain has come to rely on one system only, dispensing with strategic aircraft to concentrate on SSBNs, abandoning shorter-range systems and the so-called “sub-strategic” role. There is now an effort to identify the minimum configuration of SSBNs, in terms of the number of submarines, missiles carried, and warheads available. In addition, the government has set out ideas for preparing the way for abolition should appropriate political conditions emerge at some point. In the event of a general move towards abolition, particularly if led by the US and Russia, Britain would pose few obstacles to success.

In this move, Britain would see itself as a facilitator, rather than a leader. The government argues the need to develop practical, technical aids to encourage moves

towards disarmament through improved monitoring of compliance with provisions of any agreement. Having gone so far unilaterally, it does not really see its own forces as being relevant to a disarmament package until at quite a late stage. In this respect, signing up to visionary statements on abolition is non-problematic. All such schemes would find the first eighty percent of reductions straightforward, consisting largely of cuts in US and Russian arsenals. It is only as the lower numbers are reached that deterrence might be said to be put at risk, or discrepancies in the numbers of weapons held by different countries really start to matter. The point at which British—and French—forces would be an unavoidable part of the mix is well down the line, when progress to a truly nuclear-free world will depend not only on the goodwill created by the earlier negotiations, and on the technical fixes developed for problems of decommissioning, verification, and potential reconstitution, but also on an extraordinary favorable international political climate.

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In collaboration with the World Security Institute, the Stimson Center has commissioned a series of papers examining the strategic obstacles that block the achievement of zero nuclear weapons world-wide. Published together in this volume, the first two papers in the series cover America's allies: *France*, by Bruno Tertrais, and the *United Kingdom*, by Lawrence Freedman. Although the two states have very different views of the utility of nuclear weapons, the papers make clear that if the US and Russia made significant progress toward deep reductions in their own arsenals, the two West European nuclear powers would find it difficult to resist joining multilateral negotiations to eliminate nuclear weapons from all nations.



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