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NATO AS A “NUCLEAR ALLIANCE”

BACKGROUND AND CONTEMPORARY ISSUES



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SUMMARY

For more than two decades following the end of Cold War, NATO pursued steps to reduce the role of nuclear weapons in its deterrence and collective defense strategy. It also sought to allay stated Russian concerns in the mid-1990s about possible changes in its nuclear posture related to the accession of new members in East and Central Europe.

In recent years, however, various forms of “nuclear saber rattling” by the Russian Federation—reflected in its nuclear modernization programs, shifts in its military doctrine, the conduct of recent military exercises, and threatening rhetoric by prominent Russian leaders—have prompted NATO to focus new attention on nuclear issues. This new attention is part of NATO’s broader effort, which relies mainly on non-nuclear capabilities and changes to NATO’s conventional force posture in northern Europe, to accomplish its deterrence and collective defense objectives.

For now, NATO’s response to Russian nuclear rhetoric and actions has been most evident in the toughened declaratory policy agreed at the Alliance’s July 2016 Warsaw Summit. However, the three “nuclear Allies”—the United States, United Kingdom, and France—are determined to modernize their strategic nuclear arsenals over the coming decade. In addition, many of their non-nuclear Allies seem prepared to contribute to maintaining the NATO nuclear deterrent, which depends on U.S. non-strategic nuclear weapons based in Europe, for the foreseeable future.

INTRODUCTION

The role of nuclear weapons in NATO's strategy has changed over time. Following the dissolution of the Soviet Union in December 1991, NATO's focus moved from territorial defense to expeditionary operations. The Alliance also sought to develop a more cooperative relationship with the Russian Federation. Hence, nuclear weapons-related issues naturally receded from the forefront of Allied deliberations.

Today, NATO is a self-described "nuclear alliance," relying in particular upon U.S. strategic nuclear forces and benefitting significantly from the independent U.K. and French strategic nuclear forces. Together, these forces represent the "supreme guarantee" of the security of the Allies. As Allied leaders have emphasized, "the circumstances in which NATO might have to use nuclear weapons are extremely remote."¹

However, nuclear weapons still matter. To paraphrase Leon Trotsky's reputed dictum on war: You may not be interested in nuclear weapons, but nuclear weapons are interested in you.

This paper describes major milestones in NATO's evolution as a "nuclear alliance" during the Cold War and early post-Cold War period; explains the essential components of NATO's current nuclear deterrent and how NATO deals with nuclear weapons policy and posture issues; and discusses the impact on the Alliance of changes in Russian capabilities and behavior relevant to nuclear weapons.

1 See NATO's Warsaw Summit Communique, accessible at: http://www.nato.int/cps/en/natohq/official_texts_133169.htm, last accessed 21 Feb 2017.

NATO AND NUCLEAR WEAPONS DURING THE COLD WAR (1949–1991)

Nuclear weapons have long been a core element of NATO’s deterrence and collective defense strategy. In December 1949, four months after entry-into-force of the North Atlantic Treaty, Allied ministers approved their first “strategic concept” for the defense of the North Atlantic region. According to this document, a primary objective of the Treaty was “to (create) a powerful deterrent to any nation or group of nations threatening the peace.”² The first military measure listed as necessary to meet this objective was to ensure the ability “to carry out strategic bombing by all means possible with *all types of weapons, without exception* (emphasis added).” It was understood that such bombing would be conducted by U.S.-based aircraft carrying nuclear weapons.

Given the context, the Allies’ reliance on nuclear weapons was not surprising. They faced an overwhelming Soviet advantage in conventional military power. No Allied leader believed that Western conventional forces, individually or collectively, could deter or defend against Soviet-led aggression in Europe without a politically and economically unsustainable military buildup. And neither American nor British leaders wanted other Allies to be tempted to develop nuclear weapons of their own due to a lack of confidence in the U.S. and, to a lesser extent, the U.K. deterrents.³ Seen from Washington and London, a proliferation of nuclear weapons states in Europe could increase the risk of confrontation with the Soviets and divert scarce resources from Allies’ conventional forces.

The twin goals of NATO’s early nuclear policy—to deter aggression and reassure non-nuclear Allies—did not fundamentally change during the Cold War. However, as the strategic balance changed, NATO made important, sometimes painful adjustments to its ways and means of achieving those goals.

For example, by 1953, American strategists assessed that the Soviets had acquired “sufficient (atomic) bombs and aircraft, using one way missions, to inflict serious damage on the United States,” and that the growing Soviet nuclear arsenal “may tend to diminish the deterrent effect of U.S. atomic power.”⁴ Hence, Secretary of State John Foster Dulles told NATO ministers in 1954 that “in any war forced upon us by the Soviet Bloc, we and our Allies must be free to use atomic weapons against appropriate elements of the enemy’s military power where it is to our military advantage to do so.”⁵ This so-called “massive retaliation” approach led Washington to deploy, in late 1954, artillery-fired nuclear weapons in Germany. Eventually, other types of forward-based U.S. nuclear weapons followed, including short-range rockets, aircraft-delivered bombs,

2 “The Strategic Concept for the Defence of the North Atlantic Area”, accessible at: <http://www.nato.int/docu/stratdoc/eng/a491201a.pdf>, last accessed 21 Feb 2017.

3 The British exploded their first nuclear device in 1952.

4 “A Report to the National Security Council”, accessible at: <https://fas.org/irp/offdocs/nsc-hst/nsc-162-2.pdf>, last accessed 21 Feb 2017.

5 “Statement by the Secretary of State to the North Atlantic Council Closed Ministerial Session, Paris, April. 23, 1954”, accessible at: <https://history.state.gov/historicaldocuments/frus1952-54v05p1/d264>, last accessed 21 Feb 2017.

and atomic demolition munitions. By the mid-1970s, several thousand such weapons were present on the territory of several European Allies or deployed on U.S. Navy ships assigned to Europe.

The “massive retaliation” approach was relatively short-lived. NATO exercises in the late 1950s indicated that West Germany would suffer catastrophic damage from even limited use of tactical nuclear weapons. This undercut the arguments of West German officials who had favored threatening NATO’s early use of nuclear weapons primarily as a means to avoid any war on their territory.

Meanwhile, France, which detonated its first nuclear device in 1960, questioned the credibility of the U.S. nuclear umbrella, given the Soviets’ growing strategic nuclear reach. President Charles de Gaulle famously asked whether, in a crisis, the United States would “trade Paris for New York.”⁶ Disagreements over nuclear policy played a role in De Gaulle’s decision in 1966 to withdraw France from NATO’s integrated military structures.

Hence, by 1968, NATO moved to a “flexible response” strategy, which counted on a build-up of its conventional forces to defeat aggression on the level at which the Soviets chose to fight. In effect, “flexible response” raised the threshold when the Alliance might be forced to employ nuclear weapons while maintaining a calculated ambiguity regarding how and when NATO might resort to their use.

During the late-1970s, NATO struggled with new challenges. The Soviets’ deployment of longer-range, mobile missiles carrying multiple nuclear warheads (the SS-20) significantly improved their ability to promptly strike a wide range of European targets. Led by West German Chancellor Helmut Schmidt, European strategists worried that the Soviet Union, having achieved rough parity with the United States in strategic nuclear weapons, could use the SS-20s’ regional dominance to “decouple” European security from the U.S. nuclear umbrella. NATO solidarity was further shaken by President Jimmy Carter’s abrupt decision in 1978 to stop production of a new type of enhanced-radiation nuclear weapon (popularly known as the “neutron bomb”) designed to counter the Soviets’ conventional strengths, especially their heavy armor.

In 1979, after a contentious debate, NATO adopted a “dual-track” strategy that linked the future deployment of U.S. longer-range theater nuclear forces (Pershing II ballistic missiles and ground-launched cruise missiles) in four Allied countries (the United Kingdom, Netherlands, West Germany, and Italy) to negotiations with the Soviets to limit their SS-20 deployments. At the same time, NATO announced the unilateral withdrawal of 1,000 U.S. tactical nuclear warheads, and an additional 1,400 warheads were withdrawn beginning in 1983. When negotiations with the Soviets collapsed at the end of 1983, the United States proceeded with the NATO-agreed Pershing II and cruise missile deployments, despite massive public protests across Western Europe. However, NATO solidarity held, and the United States and Soviet Union reached agreement in the 1987 Intermediate Nuclear Forces Treaty (INF) on the total and verifiable elimination of the intermediate and shorter-range land-based missiles on both sides.

6 “30. Memorandum of Conversation”, accessible at: <https://history.state.gov/historicaldocuments/frus1961-63v14/d30>, last accessed 21 Feb 2017.

The signing of the INF Treaty led the Allies to review their nuclear policy and posture. The overall (and deliberate) effect of their decisions was to reduce the prominence of nuclear weapons in NATO's deterrence and collective defense strategy.

As was the case with the INF Treaty, progress in bilateral U.S.-Soviet talks on nuclear weapons played an important role. In July 1991, Presidents George H.W. Bush and Mikhail Gorbachev signed the Strategic Arms Reduction Treaty (START I), committing each side to reduce its accountable strategic warheads to 6,000 and deployed strategic nuclear delivery vehicles to 1,600. START I set the stage for Bush's unilateral "Presidential Nuclear Initiatives" (PNIs) in September 1991. The PNIs included the removal from Europe of some 1,700 forward-based nuclear warheads, as well as the removal of all nuclear weapons from U.S. surface ships, attack submarines, and land-based naval aircraft. Bush complemented the PNIs with a call for practical cooperation with the Soviets in areas such as safe and secure nuclear warhead storage and transportation, command and control, and dismantlement; this reflected U.S. concerns about the status of Soviet nuclear weapons, especially those located outside Russia.

In November 1991, NATO endorsed the PNIs, while stating that it would "maintain for the foreseeable future an appropriate mix of nuclear and conventional forces based in Europe and kept up to date where necessary, although at a significantly reduced level."⁷ In effect, this left NATO dual-capable aircraft (DCA)—U.S. and Allied combat aircraft able to carry nuclear or conventional weapons—and U.S. nuclear bombs as the only non-strategic nuclear forces available to NATO based on the European continent. NATO's decision was not contingent upon Soviet actions.

7 The Alliance's New Strategic Concept, accessible at: http://www.nato.int/cps/en/natohq/official_texts_23847.htm, last accessed 21 Feb 2017.

POST COLD WAR DEVELOPMENTS

With the dissolution of the Soviet Union in December 1991, NATO's focus shifted from territorial defense to expeditionary operations stretching from the Balkans to Afghanistan. As a result, nuclear weapons-related issues receded from the forefront of Allied deliberations. Moreover, individual Allies and the Alliance as a whole sought to develop a more cooperative relationship with the Russian Federation in nuclear-related areas.

For example, beginning in 1992, the United States expanded the scope and funding for assistance to Russia to: improve the safety and security of its nuclear weapons stockpiles and facilities; support the safe dismantlement of nuclear weapons and delivery vehicles (thereby helping Russia to comply with its arms reduction treaty obligations and promised unilateral cuts in its arsenal); and ease the transition of former Soviet weapons scientists into non-military pursuits.⁸

Moreover, in 1994, the United States and United Kingdom joined the Russian Federation and Ukraine in signing the Budapest Memorandum. The primary purpose of the Memorandum was to seal Ukraine's commitment to transfer to the Russian Federation the nuclear weapons present on Ukrainian territory since the breakup of the Soviet Union. In exchange, Russia promised to "respect the independence and sovereignty and the existing borders of Ukraine," and reaffirmed its "obligation to refrain from the threat or use of force against the territorial integrity or political independence of Ukraine."⁹

For its part, NATO sought to allay stated Russian concerns that any new members of the Alliance in Central and Eastern Europe would seek (or be obliged) to base nuclear weapons on their territory. Hence, NATO declared in the 1997 NATO-Russia Founding Act that there was "no intention, no plan and no reason to deploy nuclear weapons on the territory of new members, nor any need to change any aspect of NATO's nuclear posture or nuclear policy - and do not foresee any future need to do so. This subsumes the fact that NATO has decided that it has no intention, no plan, and no reason to establish nuclear weapon storage sites on the territory of those members, whether through the construction of new nuclear storage facilities or the adaptation of old nuclear storage facilities."¹⁰ NATO has complied fully with this political commitment.

During the 1990s, NATO took additional measures to improve relations with Russia. These included a significant relaxation of the readiness criteria for forces with a nuclear role; according to NATO, the highest level of readiness for those forces is measured in weeks. In addition, NATO terminated its standing peacetime nuclear contingency plans, and announced that its nuclear forces no longer target any country.

8 Between 1991 and 2012, the U.S. Congress authorized nearly \$9 billion for such assistance, known as the "Cooperative Threat Reduction Program."

9 "Budapest Memorandums on Security Assurances, 1994", accessible at: <http://www.cfr.org/nonproliferation-arms-control-and-disarmament/budapest-memorandums-security-assurances-1994/p32484>, last accessed 21 Feb 2017.

10 "Founding Act", accessible at: http://www.nato.int/cps/en/natohq/official_texts_25468.htm, last accessed 21 Feb 2017.

Similarly, NATO's intent to reduce further the role of nuclear weapons was reflected in its Deterrence and Defense Posture Review (DDPR), published at its Chicago Summit in 2012. In the review, the Alliance resolved to "create the conditions for a world without nuclear weapons in accordance with the goals of the Nuclear Non-Proliferation Treaty."¹¹ It proposed a dialogue with Russia, in the NATO-Russia Council, on transparency and confidence-building ideas to increase "mutual understanding of (their) non-strategic nuclear force postures in Europe."¹² It also stated its readiness to "consider further reducing its requirement for non-strategic nuclear weapons assigned to the Alliance in the context of reciprocal steps by Russia, taking into account the greater Russian stockpiles of non-strategic nuclear weapons stationed in the Euro-Atlantic area."

Meanwhile, since the end of the Cold War, the three "nuclear Allies" substantially reduced the size of their respective strategic nuclear forces. For the United States, this involved both negotiated and unilateral measures. In January 1992, Bush announced additional unilateral steps to eliminate or limit certain strategic forces programs. Shortly before leaving office in January 1993, he and Russian President Boris Yeltsin signed the START II agreement, which called for further reductions in deployed strategic nuclear weapons. Under President Bill Clinton, the United States expanded its assistance to Russia for nuclear weapons safety and dismantlement, and the two countries signed a "framework" agreement for negotiations to reduce their deployed strategic warheads below the START II limits.¹³ In 2002, during the George W. Bush Administration, the United States and Russia agreed on the Strategic Offensive Reductions Treaty (SORT), which specified that each side would reduce their operationally-deployed strategic arsenals to 1,700-2,200 warheads. In 2010, during the Barack Obama Administration, further strategic reductions were agreed in the New START Treaty. Under this accord, by early 2018, each side will be limited to 1,550 strategic nuclear warheads deployed on 700 strategic delivery systems. This represents an approximately 30 percent reduction in warheads from SORT, and slightly more than a 50 percent reduction in delivery systems from START I.

At the height of the Cold War, the British deterrent included four ballistic missile submarines (SSBNs), several squadrons of nuclear-capable strike aircraft, and a stockpile of slightly less than 500 warheads, according to non-government estimates. Beginning in the early 1990s, however, the United Kingdom began to reduce and/or eliminate both delivery systems and stockpiles. Today, its nuclear deterrent consists of four SSBNs. Each SSBN is designed to carry up to 16 ballistic missiles (leased from the United States) armed with multiple warheads. In 2010, the Conservative-led government of Prime Minister Cameron decided to reduce the number operational missiles on each submarine to "no more than eight," and to reduce the total number of warheads onboard from

11 "Founding Act", accessible at: http://www.nato.int/cps/en/natohq/official_texts_25468.htm, last accessed 21 Feb 2017.

12 In 2011, a senior U.S. official estimated the size of Russia's non-strategic nuclear weapons stockpile as between 2,000 and 4,000 weapons. See: Statement of Dr. James N. Miller, Principal Deputy Under Secretary of Defense for Policy Before the House Committee on Armed Services, 2 November 2011.

13 START II never entered into force, as the sides failed to resolve differences over missile defenses.

48 to 40.¹⁴ The government also decided to reduce the overall nuclear stockpile to “no more than 180,” of which operationally available warheads would number “no more than 120.” Secretary of State for Defense Michael Fallon confirmed, in January 2015, that those targets have been reached.

At its highpoint in the Cold War, the French deterrent included six SSBNs, 18 land-based intermediate range ballistic missiles, three squadrons of land-based dual-capable combat aircraft, and some 30 tactical (“pre-strategic” in French lexicon) nuclear-armed surface-to-surface missiles. The French nuclear stockpile reportedly reached more than 500 weapons in the early 1990s. However, by 1997 the French had eliminated their tactical and intermediate range missiles, and reduced their SSBN fleet. Today, the French nuclear deterrent includes four SSBNs, each capable of carrying up to 16 ballistic missiles armed with multiple warheads. Like the British, French policy is to maintain at least one SSBN on operational patrol at all times. France’s airborne nuclear component consists of two squadrons of land-based DCA, plus a smaller number of naval-variant DCA that could be deployed onboard the Charles de Gaulle aircraft carrier. If deployed for a nuclear mission, the French aircraft would carry an air-to-surface missile with a single warhead. In his February 2015 speech, President Francois Hollande stated that the French nuclear stockpile totals 300 warheads.

14 “Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review”, accessible at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/62482/strategic-defence-security-review.pdf, last accessed 21 Feb 2017.

NATO'S NUCLEAR DETERRENT TODAY

NATO, as an organization, does not “own” nuclear weapons. Instead, it relies on a multi-layered relationship among “nuclear” and “non-nuclear” Allies to make nuclear weapons available for Alliance deterrence and defense, and consult and decide (by consensus) on a range of nuclear weapons-related issues.

Strategic nuclear forces

As NATO has made clear, the “supreme guarantee of the security of the Allies is provided by the strategic nuclear forces of the Alliance.”¹⁵ Each of the three “nuclear Allies” plays a distinctive role in terms of its contribution to NATO’s overall nuclear deterrent capabilities. However, they have very similar approaches to the critical question of command and control. Only the U.S. President, U.K. Prime Minister, and French President can authorize the employment of his/her nation’s nuclear weapons. Moreover, their governments and militaries take extraordinary measures to: validate the authenticity of nuclear release orders; prevent access by unauthorized persons and/or groups to systems used to order or terminate nuclear employment; and ensure the safety, security, reliability, and effectiveness of their respective nuclear weapons and associated delivery systems.

NATO’s reliance on U.S. strategic forces is a reflection of the unique quantitative and qualitative capabilities of the American triad of land- and sea-based intercontinental ballistic missiles and long-range bombers. It also reflects the longstanding U.S. commitment to “extended deterrence”—in short, the credible U.S. threat of a nuclear response in the event of an attack against a NATO Ally. At the same time, U.S. strategic forces provide extended deterrence to allies in the Asia-Pacific region—notably Japan, the Republic of Korea, and Australia. Moreover, in “extreme circumstances,” the United States could consider the use of nuclear weapons to defend the “vital interests” of “partners”—i.e., nations with whom the United States does have a formal defense alliance.¹⁶ Such considerations help explain why the United States does not formally “assign” specific strategic forces, in whole or in part, to the defense of NATO.

Since the early 1970s, NATO has used essentially the same language to describe the role of the other nuclear Allies: “The independent strategic nuclear forces of the United Kingdom and France, which have a deterrent role of their own, contribute to the overall deterrence and security of the Allies.”¹⁷ This language was carefully crafted to accommodate different British and French approaches.

15 Op. cit., Warsaw Summit Communiqué.

16 The U.S. Nuclear Posture Review of 2010 states: “The United States would only consider the use of nuclear weapons in extreme circumstances to defend the vital interests of the United States or its allies and partners.” The term “partners” is not defined further in the document. See: “Nuclear Posture Review Report”, accessible at: http://www.defense.gov/Portals/1/features/defenseReviews/NPR/2010_Nuclear_Posture_Review_Report.pdf, last accessed 21 Feb 2017.

17 “Founding Act”, accessible at: http://www.nato.int/cps/en/natohq/official_texts_25468.htm, last accessed 21 Feb 2017.

Specifically, the U.K. SSBNs have been “assigned” to NATO since the early 1960s, “except where Her Majesty’s Government may decide that supreme national interests are at state.”¹⁸ Accordingly, while U.K. nuclear planning takes place in close consultation with NATO’s Supreme Allied Commander Europe, final decisions on any use of U.K. nuclear weapons rests with the British Government alone. Notwithstanding the very close U.S.-U.K. cooperation on nuclear weapons since World War II, U.K. nuclear missiles can be fired and guided to their targets without any outside help and are not subject to any outside veto.

According to long-established policy, France holds that its nuclear deterrent constitutes the “ultimate guarantee” of its sovereignty, and that its president has the “supreme responsibility” for deciding what constitutes a threat to the nation’s “vital interests.”¹⁹ In some respects, French motivations for building an independent nuclear deterrent—such as fear of Soviet aggression, a desire to preserve France’s global influence, and unwillingness to be totally dependent on American defense guarantees—were similar to those of the British. However, France has not assigned any nuclear forces to NATO, although French officials frequently link the “contribution” of their nuclear forces to Allied security to their strong commitment to their collective defense provision (Article 5) of the North Atlantic Treaty.

Still, as the NATO-agreed language suggests, both the U.K. and French strategic deterrents are important to overall Alliance security. For example, the existence of separate centers of decision-making in Washington, London, and Paris strengthens deterrence by complicating an adversary’s planning. In addition, while British and French SSBN capabilities might seem modest in comparison with those of the United States—14 SSBNs are currently in service with the U.S. Navy—they are far from negligible. And as a former senior Pentagon official has suggested, French DCA can be an asset to the Alliance, since “(i)n regional conflicts, where an adversary is moving to test our nuclear resolve, we need to be able to demonstrate *visibly* (emphasis added) our national resolve and our collective resolve as a NATO Alliance. Visible...fighter bombers are effective for this purpose. This is the main reason the United States retains both bombers and nuclear bombers in the nuclear role.”²⁰

Moreover, as geo-political and doctrinal differences among the United States, United Kingdom, and France have narrowed over recent years, the three countries have increased bilateral cooperation and consultations in areas such as: deterrence strategy and the specific role of nuclear weapons; the safety, reliability, and effectiveness of nuclear-related weapons systems; and nuclear non-proliferation. Longstanding U.S. nuclear weapons-related cooperation with the United Kingdom will remain, for the foreseeable future, more extensive than has been the case between the United States and

18 See: <http://webarchive.nationalarchives.gov.uk/20121026065214/http://www.mod.uk/NR/rdonlyres/E2054A40-7833-48EF-991C-7F48E05B2C9D/0/nuclear190705.pdf>, last accessed 21 Feb 2017.

19 “Le Livre blanc 2013 rendu public”, accessible at: <http://www.defense.gouv.fr/actualites/memoire-et-culture/livre-blanc-2013>, last accessed 21 Feb 2017.

20 See remarks by Bradley Roberts in “50 ans de dissuasion nucléaire: exigences et pertinence au XXIe siècle”, accessible at: www.calameo.com/books/0005581153288853c9a4d, last accessed 21 Feb 2017.

France. However, U.S.–French nuclear consultations and cooperation have intensified over recent years, and looking ahead, the shared interests among the nuclear allies likely will grow along with new forms of bilateral and, in certain cases, trilateral engagement.

Non–strategic nuclear forces

As noted above, since the early 1990s, the only nuclear forces based in Europe under NATO sharing arrangements have been: the DCA maintained by the United States and a number of European Allies; and U.S. nuclear bombs, located in certain Allied states, over which the United States maintains absolute control and custody. However, in deference to political sensitivities in the non–nuclear Allies involved, NATO publishes few details on those forces. For example, it does not publicly identify: the European Allies that contribute DCA to NATO; the Allied nations where the U.S. non–strategic nuclear weapons are stored; or the approximate number of weapons involved—except to acknowledge that NATO has unilaterally reduced the size of its land–based nuclear weapons stockpile by over 95 per cent since the height of the Cold War.

Still, the approximate parameters of the non–strategic nuclear weapons in question are not in dispute. In February 2010, former NATO Secretary General Lord George Robertson and Franklin Miller, a former high–ranking U.S. official with extensive responsibilities in the nuclear area, co–authored an article stating that: “According to the Federation of Atomic Scientists (FAS), the United States possesses about 1,200 tactical nuclear weapons, of which 500 are operational warheads (the rest are in storage or in the process of being dismantled). The FAS indicates that 200 of the operational weapons are deployed in Europe, stationed with U.S. and Allied air crews in Germany, Belgium, the Netherlands, Italy and Turkey. They are all bombs, to be delivered by aircraft.”²¹ U.S. official documents further specify that the weapons in question are older versions of the aging B61 nuclear gravity bomb, which will be replaced (beginning in the early 2020s) by a single version, the B61–12.

For Allies that have chosen to be most directly involved in NATO sharing arrangements for non–strategic nuclear weapons, the associated burdens, responsibilities, and risks are not negligible. For example:

U.S. “extended deterrence” is not cost–free. As Robertson and Miller point out: “(T)he nuclear arsenal in Europe serves to put the U.S. homeland at risk to nuclear attack if NATO is forced to resort to using Europe–based nuclear bombs to defend its borders.”²² The U.S. role also necessitates significant expenditures—for DCA aircraft, weapons storage facilities, command and control systems, crew training, and exercises—that would not be necessary if the United States were solely concerned with its own defense. Moreover, it also obligates Washington to consult with Allies on the disposition and

21 “Germany Opens Pandora’s Box”, accessible at: <https://www.cer.org.uk/publications/archive/briefing-note/2010/germany-opens-pandoras-box>, last accessed 21 Feb 2017. One can appreciate the irony this situation: former officials, who argue for the continued presence of US nuclear weapons in Europe, must attribute the information they use to an organization whose anti–nuclear sympathies are no secret.

22 Ibid.

possible employment of nuclear weapons; absent such consultations, Allies with U.S. nuclear weapons on their territory and/or DCA would be more likely not to participate in nuclear missions.

Non-nuclear Allies who have accepted U.S. nuclear weapons on their territory and/or maintain DCA also bear special risks, costs, and responsibilities. In their case, the risks are mainly of a domestic political nature; in Germany, for example, major political leaders have openly clashed over calls by some for the unilateral removal of U.S. nuclear weapons. The additional costs of maintaining specialized DCA capabilities, crew training, and base security do not appear to be a major drain on the defense budgets of the concerned Allies, but they are not trivial, either. By virtue of their particular roles involving NATO's nuclear dimension, this group of non-nuclear Allies also is expected to share responsibility for explaining the rationale for nuclear deterrence to their own publics.

Certain non-nuclear Allies contribute important conventional capabilities to potential NATO nuclear missions. These may include the provision of: combat aircraft that fly complementary missions (such as assisting Allied DCA to penetrate enemy airspace); aerial refueling for mission aircraft; aircraft/aircrew recovery and decontamination assets; and planning and exercising support. In addition, many non-nuclear Allies can offer valuable insights and support to NATO's assessments of nuclear weapons-related developments occurring outside the Alliance.

HOW NATO HANDLES NUCLEAR MATTERS

NATO has several fora where matters pertaining to nuclear weapons are discussed and, where appropriate, decisions are taken by consensus.

The North Atlantic Council (NAC) is the Alliance's principal decision-making body and includes all 28 Allies. Chaired by the Secretary General, the NAC meets at various levels—heads of state and government (at periodic summits), foreign or defense ministers (each group normally meets twice a year), or “permanent representatives” heading the Allies' respective missions at NATO headquarters. Since the role of nuclear weapons in NATO deterrence and defense strategy affects all Allies, this is discussed and decided in the NAC, and reflected in NAC documents such as the Strategic Concept, summit declarations, and special reviews—for example, the aforementioned 2012 DDPR.

The Nuclear Planning Group (NPG) has comparable authority to the NAC for specific matters involving nuclear weapons, but includes only 27 Allies. The NPG was established in 1966 in the wake of France's decision to leave NATO's integrated military structures, and France—in line with its policy of strict “autonomy” in decision-making and action regarding its deterrent—did not join the NPG when it returned to those NATO structures in 2009.

Normally, the NPG meets at the level of defense ministers or permanent representatives to consider matters affecting the safety, security, and survivability of nuclear weapons, communications and information systems, and deployment issues. The NPG also provides policy guidance to NATO military authorities regarding the conduct of nuclear exercises. A senior NPG advisory body, known as the High Level Group, is chaired by the United States and brings together high-level policy-makers from Allied capitals. In addition to policy and technical issues involving nuclear sharing arrangements, it covers issues such as arms control and nuclear proliferation.

The NPG's importance should not be underestimated. In the late 1960s, for example, its studies played a crucial role in reconciling divergent Allied views on nuclear doctrine. Similarly, the NPG helped to formulate the “dual-track” decision that led NATO to unilaterally reduce its tactical nuclear forces, approve the deployment of U.S. INF systems, and—ultimately—to the INF Treaty.

The NPG is the only permanent structure where two of the nuclear Allies—the United States and United Kingdom—provide regular, high-level, and classified briefings to the other Allies, whether or not they are DCA contributors or have U.S. non-strategic nuclear weapons on their territory. The briefings cover subjects such as the global balance of nuclear forces prospective developments. The NPG also is the only permanent Alliance structure to discuss politically- and militarily-sensitive consultative procedures on the possible use of nuclear weapons; those consultations include all of the NPG-participating Allies, with decisions subject to the consensus rule.

France's decision not to participate in the NPG has not materially affected that body's work. Indeed, within the NAC, France has been a leading advocate for the need for a strong nuclear deterrent. French officials have made known their concern that one or more of the non-nuclear Allies might abandon their current DCA role; some fear that such a development could fuel sentiment in France to abandon the air component of its

deterrent. A few non-government experts have gone further, suggesting steps short of joining the NPG to facilitate “coordination of French and NATO deterrence operations, from alert levels to actual nuclear planning in a crisis, if Paris were willing to exercise deterrence in an Alliance context.”²³

23 See Jeffrey Lewis and Bruno Tertrais, “Deterrence at Three: US, UK, and French Nuclear Cooperation,” *Survival*, 57:4, pp. 29–52.

CHANGING RUSSIAN APPROACH

At various junctures, NATO has reached out to Russia to begin a dialogue on nuclear weapon-related subjects, building upon “areas of mutual interest” identified in the NATO-Russia Founding Act, including “exchange of information and consultation on strategy, defense policy, (and) military doctrines,” “arms control issues,” “nuclear safety issues, across their full spectrum,” “preventing the proliferation of nuclear... weapons, and their delivery means, (and) combatting nuclear trafficking.”²⁴ As noted above, in the 2012 DDPR, NATO specifically proposed a dialogue with Russia on transparency and confidence-building ideas to increase “mutual understanding of (their) non-strategic nuclear force postures in Europe.” Despite signs of interest by Russia in the late 1990s and early 2000s, its attitude has grown increasingly negative to any discussion of non-strategic nuclear weapons.

Indeed, Moscow in recent years has taken a number of steps to highlight the importance of nuclear weapons in pursuit of its defense and foreign policy goals. In doing so, Russia has increased the concerns that the continued pursuit of parts of its agenda—these include expanding and/or consolidating influence in its perceived sphere of influence, while weakening or fracturing NATO solidarity on key commitments—potentially could lead to armed conflict with the Alliance and, under certain circumstances, even the employment of nuclear weapons.

Russia’s changing approach has been manifested in four areas, whose key points can be summarized as follows:

1. **EVOLVING DOCTRINE.** The most recent iteration of Russia’s military doctrine, published in December 2014, has evolved in important ways since the first version appeared in 1993. The 1993 document contains several relatively optimistic remarks on the international system and places the “expansion of military blocs and alliances to the detriment of the interests of the Russian Federation’s military security” near the bottom of its list of “existing and potential sources of external military danger.”²⁵ It drops the pledge of “no first use of nuclear weapons” made by Soviet leaders in the 1980s—a step that might be attributed to the weakness, in absolute terms, of Russian conventional forces in the early 1990s. Nevertheless, the document also warns that “any, including limited, use of nuclear weapons in a war by even one side may provoke the massive use of nuclear weapons and have catastrophic consequences.”

In 2014, the doctrine (already revised in 2000 and 2010) reflects a decidedly more pessimistic assessment of the international system and places “the buildup of the power potential of NATO...including by further expansion of the alliance” at the

24 “Founding Act”, accessible at: http://www.nato.int/cps/en/natohq/official_texts_25468.htm, last accessed 21 Feb 2017.

25 “The Basic Provisions of the Military Doctrine of the Russian Federation”, accessible at: <https://fas.org/nuke/guide/russia/doctrine/russia-mil-doc.html>, last accessed 21 Feb 2017.

top of its list of “main external military risks.”²⁶ It also omits any reference to the “catastrophic consequences” of any use of nuclear weapons. Indeed, it appears to broaden the scope for Russia’s possible use of nuclear weapons, suggesting this might be necessary even in regional conflicts involving conventional forces.

Some analysts argue that the doctrine’s language, when placed in the context of other official declarations and strategic literature, suggests Russia’s adoption of an “escalate to de-escalate” concept. If this analysis is correct, it means that Russia might be willing to be the first to use nuclear weapons even in scenarios where Russia was responsible for initiating the conflict. As one analyst puts it: “It implies that Russia envisions employing nuclear weapons in some scenarios as a means to defend positions gained by (its) successful, rapid conventional operations rather than as a way to ‘escalate out of failed conventional aggression.’”²⁷ If correct, this analysis would point to a potential (and dangerous) lowering of the threshold for nuclear use.

2. MODERNIZATION PROGRAMS. Russia is engaged in a broad range of modernization programs for its strategic and non-strategic nuclear weapons systems. According to various assessments by Allied governments and non-government experts, these include: replacement (estimated to be completed by the early 2020s) of the remaining Soviet-era land-based intercontinental ballistic missiles (ICBMs) by new types of silo-based and mobile missiles, carrying either single or multiple warheads; upgrading Russia’s current fleet of 12 SSBNs, three of which are a new class of submarines carrying more capable missiles with a higher number of multiple warheads; a combination of upgrades and replacements for the strategic bomber fleet, including the development of a new nuclear-armed air launched cruise missile; and updating of several types of non-strategic nuclear weapons, with an emphasis on naval systems (such as cruise missiles, antisubmarine rockets, and anti-aircraft missiles.) In July 2014, the United States published its finding that Russia had tested a new ground-launched cruise missile (designated as the SSCX-8) in violation of the INF Treaty. In December 2016, U.S. officials reportedly detected tell-tale signs that Russia has begun operational deployments of the SSCX-8.

While Western analysts broadly agree on the scale of Russia’s nuclear modernization, there is no consensus yet on the motivations for, and implications of, such an extensive and costly effort. For some, it reflects the fact that, mainly for economic reasons, Russia was forced during the 1990s and early 2000s to defer replacement of its aging systems; in effect, Russia is playing “catch up” while sustaining an advanced technology sector of its military-industrial complex and its claim to be a great power on par with the United States. For others, many aspects of the modernization programs reflect more worrisome tendencies. They point, for example, to Russia’s development of a new type of large, silo based ICBM capable

26 “Military Doctrine of the Russian Federation”. accessible at: <https://www.offziere.ch/wp-content/uploads-001/2015/08/Russia-s-2014-Military-Doctrine.pdf>, last accessed 21 Feb 2017.

27 “Nuclear Weapons in Russia’s Approach to Conflict”, accessible at: <https://www.frstrategie.org/publications/recherches-documents/nuclear-weapons-in-russia-s-approach-to-conflict-2016-06>, last accessed 21 Feb 2017.

of carrying 10-15 warheads; for many analysts, such systems are particularly destabilizing, since their presumed vulnerability to attack could tempt Russian leaders to launch them early in a crisis.

There appears to be a growing consensus, however, regarding the important relationship between Russian nuclear and non-nuclear modernization programs, especially the latter's growing emphasis on long-range and dual-capable precision-strike systems able to deliver nuclear or conventional warheads. As one analyst describes it: "The use of conventional long-range precision weapons along with nuclear weapons for deterrence is viewed (by Russia) as significantly increasing (its) military options and freedom of action in crisis and conflict."²⁸ One among many inherent risks here is that Russian leaders might overestimate the capabilities of their conventional precision strike systems—for example, to perform so-called "anti-access area denial" missions—and/or underestimate Allied response to their use. In such circumstances, Russian leaders might face unexpected pressures to consider using dual-capable systems in their nuclear configuration.

3. EXERCISES AND DEPLOYMENTS. One disturbing element of Russia's changing approach to nuclear weapons matters has been its use of exercises and deployments for several purposes: to assess its nuclear employment concepts; to increase the proficiency of its dual-capable and/or nuclear forces, as well as their command and control systems; and to intimidate Allies and Partners. This use of exercises is not an entirely new phenomenon: in its 1999 "ZAPAD" strategic military exercise, Russia simulated a nuclear strike against Poland, apparently to terminate a conflict where Russian conventional forces risked defeat.

In recent years, Russia has stepped up the frequency and complexity of its military exercises with all three components (air, land- and sea-based) of its nuclear forces; in several instances, these reportedly involved a simulated escalation from conventional to nuclear conflict.²⁹ According to NATO, over the period of 2013-2015, Russia conducted "at least 18 large-scale snap exercises," some of which have included "simulated nuclear attacks on NATO Allies and on partners (e.g., March 2013 simulated attacks on Sweden.)"³⁰ Swedish media reports further specify that the 2013 event involved two Russian long-range bombers, escorted by fighter aircraft, that "carried out mock attacks on a military facility near Stockholm and a second facility in southern Sweden."³¹

28 Ibid.

29 "Training to fight – Russia's Major Military Exercises 2011-2014", accessible at: <https://www.foi.se/reports/summary?reportNo=FOI-R--4128--SE>, last accessed 21 Feb 2017.

30 "Secretary General's Annual Report 2015", accessible at: http://www.nato.int/cps/en/natohq/topics_127529.htm, last accessed 21 Feb 2017.

31 "NATO report: A 2013 Russian aerial exercise was actually a 'simulated nuclear attack' on Sweden", accessible at: <http://www.businessinsider.com/nato-report-russia-sweden-nuclear-2016-2>, last accessed 21 Feb 2017.

Russia apparently intends to use new deployments of dual-capable systems to complement its use of periodic exercises. For example, the Iskander missile systems sent to Kaliningrad for a military exercise in mid-summer 2014 reappeared there in October 2016. Russian officials had previously linked the potential dispatch of Iskanders to Kaliningrad and Crimea to U.S. plans to base missile defense interceptors in Romania and Poland. While Russian officials describe the Iskanders' presence in Kaliningrad as part of regular training exercises, NATO officials refer pointedly to the deployment of the missiles as an example of a Russian military buildup close to NATO borders.

4. NUCLEAR “SABER RATTLING.” Putin has taken a very public and assertive stance on nuclear weapons issues. In August 2014, as Russian forces were stepping up their direct intervention in eastern Ukraine, he told a Russian youth forum: “Our partners should always understand...that it is better not to mess with us...I want to remind everyone that Russia is one of the strongest nuclear powers.”³² In a March 2015 interview, he acknowledged that concerns over a potential Western intervention in Crimea the previous year had led him to consider putting Russian nuclear weapons on alert.³³ A few months later, he implicitly linked his decision to add 40 ICBMs to Russia’s arsenal to U.S. plans to deploy a rotational Brigade Combat Team in NATO Allies bordering his country, noting: “We will be forced to aim our armed forces...at those territories from where the threat comes.”³⁴ In May 2016, Putin made similar threats to target Poland and Romania in response to their hosting NATO missile defense interceptors.

Not surprisingly, a range of senior Russian military officers, diplomats, and parliamentary figures have followed suit. For example, Russia’s ambassador to Denmark stated in a March 2015 interview that “Danish warships (would) become targets for Russian nuclear missiles” if that country were to participate in NATO’s missile defense program.³⁵ More recently, a Russian parliamentarian active in defense affairs warned on Norwegian television that Norway would be added to

32 Remarks by President Putin at the All-Russian Youth Forum, 29 August 2014, accessible at: <http://news.kremlin.ru/news/46507>, last accessed 21 Feb 2017.

33 “Putin’s Rattling of the Nuclear Saber Shows Ukraine Is Non-Negotiable”, in *Moscow Times*, March 16, 2015, accessible at: <https://themoscowtimes.com/articles/putins-rattling-of-the-nuclear-saber-shows-ukraine-is-non-negotiable-44813>, last accessed 21 Feb 2017.

34 “Putin says Russia beefing up nuclear arsenal, NATO denounces ‘saber-rattling’”, accessible at: <http://www.reuters.com/article/us-russia-nuclear-putin-idUSKBN00W17X20150616>, last accessed 21 Feb 2017.

35 “Denmark could become target of Russian nuclear weapons, ambassador warns”, accessible at: <http://www.dw.com/en/denmark-could-become-target-of-russian-nuclear-weapons-ambassador-warns/a-18332777>, last accessed 21 Feb 2017.

“the list of targets for our strategic weapons” if it accepted the planned rotational presence of some 330 U.S. Marines.³⁶

Russia’s statements and/or actions in any one of these four areas raise questions about its underlying strategic intent, but their apparently close and systematic coordination points to a number of overriding concerns. Are Russian leaders changing their view of the role of nuclear weapons from one that focuses primarily on deterring aggression against Russian territory to one that, in addition to that role, sees their possible utility in advancing Russian influence (and, in some cases, physical presence and control) beyond its borders? Does the combined effect of Russian efforts in these four areas have the effect, whether intended or not, of lowering the threshold for the use of nuclear weapons in plausible conflict scenarios? Do Russian leaders sufficiently understand the risks involved in possibly miscalculating their own nuclear and conventional capabilities, including their command and control networks, as well as the capabilities and possible reactions of potential future adversaries?

36 “‘Norway will suffer’: Russia makes nuclear threat over US Marines”, accessible at: <http://www.thelocal.no/20161031/norway-will-suffer-russia-makes-nuclear-threat-over-us-marines>, last accessed 21 Feb 2017.

NATO'S RESPONSE

Faced with Russia's approach, the Alliance is still in the early stages of formulating a coherent and effective response. Still, at their July 2016 summit in Warsaw, Allied heads of state and government took some important steps.

First, by strengthening conventional deterrence—through measures such as the forward presence of NATO forces in the three Baltic Allies and Poland; increasing the readiness and capability of the NATO Response Force; a more ambitious exercise program; and a more dedicated effort to counter “hybrid warfare” and cyber threats—the Alliance will be better positioned to “respond to any threats from wherever they arise.”³⁷ With an increased ability to counter a range of potential Russian non-nuclear threats, NATO stands a better chance of dissuading Russia from launching aggression in the first place.

Second, in addition to reaffirming NATO's position that “(a)s long as nuclear weapons exist, NATO will remain a nuclear alliance,” the Allies acknowledged that NATO's “nuclear deterrence posture also relies, in part, on the United States' nuclear weapons forward-deployed in Europe and on capabilities and infrastructure provided by the Allies concerned.” In combination with other language in the communique, this consensus formulation likely was intended to shelve, at least for the near term, the type of contentious debate over those weapons that preceded the DDP.

Third, in language clearly aimed at disabusing Russian leaders of any notion that they could “de-escalate” or terminate a conflict on advantageous terms by the limited use of nuclear weapons, the 28 Allied leaders warned: “Nuclear weapons are unique. Any employment of nuclear weapons against NATO would fundamentally alter the nature of a conflict. The circumstances in which NATO might have to use nuclear weapons are extremely remote. If the fundamental security of any of its members were to be threatened, however, NATO has the capabilities and resolve to impose costs on an adversary that would be unacceptable and far outweigh the benefits that an adversary could hope to achieve.”

Yet, these declaratory statements do not address difficult issues regarding how NATO will “(sustain) leadership focus and institutional excellence for the nuclear deterrence mission and planning guidance aligned with 21st century requirements.” For many years, NATO has largely kept its nuclear policy and capabilities segregated from its conventional defense, missile defense, and cyber defense capabilities. For many Allies, this has been a source of pride, in part because it reinforces their confidence that NATO's use of nuclear weapons is, indeed, “extremely remote.”

It remains highly unlikely that NATO would refashion its approach to nuclear weapons in ways that mirror Russian concepts and/or exercise practices. NATO does not target Russia for nuclear strikes and does not conduct simulated nuclear strikes on Russia; indeed, its nuclear exercises are conducted without reference to Russia or Russian territory. Similarly, long-standing NATO policies intended to reduce tensions and risks of miscalculation are highly unlikely to change. Hence, NATO can be expected to maintain its aforementioned nuclear-related political commitments in the 1997 Founding Act.

37 Op. cit., Warsaw Summit Communique